The Marine Record.

A PROPOSED SUBMARINE RAILWAY.

A Halifax inventor has brought to the notice of the minister of marine and fisheries a novel scheme for the construction of a submarine cable railway to connect Prince Edward island and the mainland. There is to be a single track of plate steel, in sections of 20 feet length, V-shaped 2½ feet wide at the top and 1½ feet in depth, which is to be made hollow and air tight so as to float. From the lower point of the V-shaped track two chains, running out obliquely and attached to heavy granite pillars on the bottoms, will keep the floating track in its proper position at the required depth under water. On the top of the track, and attached to it by wheels running underneath flanges projecting on each side, there will move an air-tight cigar-shaped submarine car, drawn by an endless chain, worked from the shore at each end. This car is to be constructed of sheet steel, four feet wide, six feet high and thirty feet long, and the main internal compartment will be fitted with seats on each side, and a passage in the center. Each seat will hold one person. At the end where the car tapers off there are to be air-tight compartments, which will give buoyancy to the car, and from which the passenger compartment will be supplied with fresh air. The car being light at the top and buoyant with compressed air, will retain its upright position and make the passage of ten miles through the water in about twenty minutes. The time to construct the railway is estimated by the inventor at about two months, and the cost at $50,000.

BUFFALO ELEVATOR CHARGES REDUCED.

A meeting of grain dealers' elevator authorities and railroad officials was held in Buffalo, Feb, 18, to consider the proposition made by twenty-six leading grain dealers of the city, to put all car grain into elevator on arrival. The meeting was private, but it was learned that the proposition to lower elevator rates from three-fourths of a cent per bushel was virtually agreed to for wheat and corn, but the roads did not agree to rebate more than an eighth of a cent on oats. The roads are to rebate half this amount to the shipper when the latter settle. The former have no right to make rebates they say, but will arrive at the same result by making their payments to the elevator direct. A letter received in Chicago from Buffalo on this matter says: We desire to inform you that under an arrangement with the railroads centering at this point, which we trust will be consummated soon, all grain shipped to us will pe put in store here immediately on arrival at an expense of one-fourth cent per bushel to the grain for elevator charges and five days, free storage. The subject of lake transportation rates was not discussed at the meeting.—Chicago Grain Trade and Elevator.

OPENING LIFE SAVING STATIONS.

Lieutenant Rogers, Inspector of the life-saving station of the eleventh district, says all of the life-saving stations under his direction will be opened for service April 1, next. Work on the new station at Michigan City, Ind., will be commenced forthwith, and the building will be completed in time to be commissioned in September. There will be seven surf men and one keeper employed there. A site has also been secured. Lieutenant Rogers says, for a new life-saving station at South Chicago, where so many wrecks occurred recently, and the building will probably be erected and equipped during the present season.

The route of the Dixon, the new boat just bought by the A. Booth Packing company will be from Duluth to Silver Islet, thence across the lake and home. She will make this trip twice a week. The Camp will probably be sent to Manistique to do fishing business. The Dixon, which has already been described in these columns, is a fine craft and will prove a great addition to the Duluth fleet. That veteran navigator Capt. Wheeler, will command her, and if any man can keep a boat out of trouble and up to her work, he is the man.

Capt. Paul Harry, of Milwaukee, has completed an invention whereby vessels will be enabled to communicate with each other, either by night or by day, at a distance of half a mile. It promises also to be especially useful in reporting at night while passing Cheboygan or Mackinac City, or Port Hnron, and can be used to good advantage by life-savers in communicating with crews of shipwrecked vessels while preparing to render them assistance. The invention does away with the old-time signals of the ocean, and relies entirely upon the Eeglish alphabet in letters two feet high, whereby names aud sentences can be spelled out in full so clearly that no mistake is possible. It promises to be very handy on steamers and their tows during heavy weather for the purpose of conveying information concerning the condition of the fleet and their necessities Something of this kind has long been required on the lakes and Captain Harry's invention gives promise of filling the bill. His "machine," which is by no means cumbersome, can be inspected at P. A. Stamm's hardware store on National Avenue.

The Buffalo Yacht Club fleet at present consists of eleven yachts: Sloop Alarm of Buffalo, John S. Provoost, owner; sloop Edgar B. Jewett of Buffalo, C. B. Hill and E. C. Roberts, owners; sloop Walrus of Buffalo, the Hon. H. H. Guenther, owner; sloop Turk of Port Dover, Ont., Judge Livingston of Simcoe Ont., owner; sloop Iolanthe of Bellville, Ont; yawl Emma of Buffalo, A. N. MacNabb and L. G, Northrop, owners; schooner May Belle of Buffalo, David Eckley, owner; cutter Sylvia of Buffalo, R. W, A. S. and H. L. Chisholm and H. E. Parrish, owners; cutter Vera of Port Dover, Ont., Andrew T. Ball, owner; cutter Erchless of Oakville, Ont., George H. Chisholm, owner, steamer Little Mack of Dunkirk, N. Y. A. J. Avery, owner.

CAN SHE BEAT THE DAVY CROCKETT?

An ocean yacht race over a course nearly 20,000 miles long would be a very exciting event were it an actual contest between two vessels at the same time. The yacht Coronet, which put to sea on Thursday for a voyage around Cape Horn to San Francisco, has no visible competitor, but her trip will still be regarded as in one sense a race against time and against the old speedy kind of vessels known as clippers, so popular twenty five years ago. The fastest record ever made between Sandy Hook and the Golden Gate was achieved by the famons clipper Davy Crockett, whose time was eighty-four days. The distance is said by the sea captains on South street to be full 17,000 miles. The fastest time across the Atlantic, Sandy Hook to Lands' End, has been made by a merchant vessel, not by a pleasure yacht, as many people suppose. It remains to be seen whether the Coronet will break the Davy Crockett's record. This is the reason so much interest is taken in her trip by the South street shipping merchants.

A meeting of the Buffalo Yacht Club was held last evening in the office of Messrs. Hawkins & Williams, with Commodore Williams in the chair. The building commitee reported that the new clubhouse would probably be completed by next Saturday. The house is situated at the end of the sand-catch pier at the foot of Porter Avenue, which is under the control of the Yacht Club.

Messrs. R. W. Chisholm, Charles B. Hill, and W. C. Cowles were elected as the house commitee, and Messrs Henry S. Hill and S. L. Woodworth were elected active members. The following were then made life members: Messrs. E. N. Cook, O. P. Letchworth, Thomas Loomis, Edgar T. Brinker, G. N. McWilliams, Charles O'Day, N E. McIntyre, Andrew Langdon, Henry N. Box, and Captain Frank Perew.

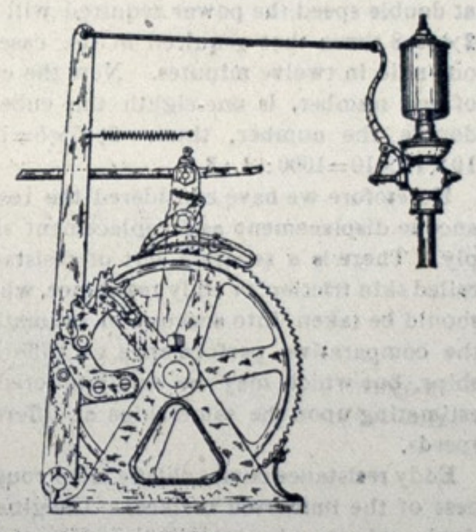
The next meeting will be held in the new club-house in about two weeks, and arrangements will then be made for the formal opening.

Petroleum as fuel for ocean steamers is making considerable head-way. Its advantage over coal lies principally in the fact of its comparative cheapness. It occupies scarcely half the space of coal, and can be taken on board in much less time. Practically this would amount to a considerable saving of money, leave more space for cargo and do away with much of the detention now incurred at coal ports. The first, however, is of the utmost importance to both cargo and passenger steamers, particularly the fast Atlantic steamers. The consumption of coal by the latter is very great and eats up the most if not all of their earnings. If oil can be safely used as fuel on board of steamers and with as good results as that given by coal, it will do much to reduce a large item of expense to all steam vessels. The Russian Admiralty has ordered a number of their gun boats to be fitted with furnaces suitable for burning oil. And it is stated that this fuel is likely to be adopted by a line of steamers between England and Australia. That these experiments will be watched with interest there is no doubt, and if successful they will have a large following among all classes of steam vessels.

THE CHASE FOG WHISTLE MACHINE.

The dangers attending fogs on the lakes are well known to all of our sailor men, and all know that the regulations require that during fogs, a signal shall be sounded at regular intervals. Under the old system of fog signals, the service and close attention of a man was required at all times while navigating in a fog, and this service became so monotonous that Mr. Chase, engineer of the steamer Ohio, devised and patented a machine which, when attached to the engine, would sound the fog whistle automatically.

The cut shows the position of the machine and its action on the whistle.



During the season of 1887, the following named steamships "thirty in number" were supplied and equipped with our machines. The same having given entire satisfaction in each and every case, we refer with pleasure, all those interested, to the owners and masters of said steamers.

Wilson Transit Line, Cleveland, O.—Steamers Spokane, Wallula, Kasota, Tower, Yakima, Missoula, Sitka.

N Western Transportation Co., Detroit, Mich.—Steamers Fayette Brown, R. J. Hacket, Forest City.

Cleveland Transportation Co., Cleveland, O.—Steamers Sparta, Havanna, Vienna, Townsend.

Bradley Transportation Co., Cleveland, O.—teamers City of Cleveland, Henry Chisholm, Superior, E. B. Hale, M. B. Grover, J. S. Fay, R. P. Ranney.

H. H. Brown, Cleveland, O,—Steamers Smith Moore, Chas. J. Sheffield.

Owen line, Chicago, Ill.—Steamers Ira H Owen.

Cambria, Outhwaite, Saml. Mather, R. R. Rhodes, Columbia, Aurora.

The machine is at all times under the control of the captain. That is if it is necessary that a signal shall be given to a passing steamer, or for any other purpose; the moment the captain pulls his wire, the fog whistle machine is thrown out of gear and will not resume its sounni g until it is permitted to do so by the master.

Following is the report presented by the committee.

To the President and Board of Supervising Inspectors of Steam Vessels.

Your committee to which was referred the "Chase Fog Whistle machine" beg leave to retort: That we have carefully examined the same and find that it blows at regular intervals, being worked by the engine, thereby insuring regular and continuous blasts for any length of time that may be required and would recommend it or similar device to owners of steam vessels as an additional safe guard to navigation.

H. S. LUBBOCK,
GEO. H. STARBUCK, } Committee.
W. D. ROBINSON.

The manufacturers are the Chase Fog Whistle acMhine Co., corner of Elm and Spruce streets, Cleveland, O.

THE Duluth Herald, commenting on the views of local vessel men, shows that lake carriers and ore produces are still far from a settlement of their differences regarding freight rates and from the feeling displayed by the heavy vessel owners it is evident they are not discouraged nor anxious. They agree that "there is to be a good season in the iron ore business, although neither ore profits nor the profits of the mines will reach the figures of last year. Railways have made money and traffic is constantly growing and an immense amount of iron will be consumed in railway equipment, cars and the like. The demand from these sources will be good. Coal handling will be greatly in excess of last year. Duluth alone will increase her receipts by half a million tons and about 120,000 tons will be delivered at Port Arthur and Fort William by the Canadian Pacific. Wheat is not so plenty at upper lake ports at present but the chances are that the amount at several lake ports will be largely increased by the opening of navigation and that considerable will move forward from the country after that." Considering all the prospects the vessel men are waiting and are not willing to accept the rates offered by either the iron ore producers or grain shippers.

OBITUARY.

CHARLES LATIMER.

The late Mr. Charles Latimer, civil engineer, who died suddenly at his residence last Sunday, was, during the early part of his career a member of the marine profession, and carried a hearty and cheerful recollection of his nautical experience through life. The writer has good reason to remember his extreme kindness of heart and mind, and his ever ready spirit to assist members of the fraternity in all cases brought under his notice. It was but the other day in conversation with a seaman acquaintance, he expressed the belief that he could tack a square rigged ship just as smart and exact as he had done forty years ago. The city has lost a splendid citizen, and his acquaintances an inestimable friend.

Vessel Owners! The Cheapest Bedding Supplies!

Are furnished as, *Comfortables, Blankets, Table linens, Towels,* etc., as well as *Sheets, Pillow-cases,* are *sewed to order,* at shortest notice, for 20 per cent less than big expensive establishments are accustomed to charge. Owing to the extreme small expenses of the Boston Dry Goods Store of Kohn & Co., 213 Detroit st., second door from corner Pearl it is *them only* who save 20 per cent unnecessary taxes. Give a trial order to KOHN & CO., 213 Detroit st., second door from corner of Pearl.

Century Magazine

With the November, 1887, issue The Century commences its thirty-fifth volume with a regular circulation of almost 250,000. The War Papers and the Life of Lincoln increased its monthly edition by 100,000. The latter history having recounted the events of Lincoln's early years, and given the necessary survey of the political condition of the country, reaches a new period, with which his secretaries were most intimately acquainted. Under the caption

LINCOLN IN THE WAR,

the writers now enter on the more important part of their narrative, viz.: the early years of the War and President Lincoln's part therein.

SUPPLEMENTARY WAR PAPERS,

following the "battle series" by distinguished generals, will describe interesting features of army life, tunneling from Libby prison, narratives of personal adventure, etc. General Sherman will write on "The Grand Strategy of the War."

KENNAN ON SIBERIA.

Except the Life of Lincoln and the War Articles, no more important series has ever been undertaken by The Century than this of Mr. Kennan's. With the previous preparation of four years' travel and study in Russia and Siberia, the author undertook a journey of 15,000 miles for the special investigation here required. An introduction from the Russian Minister of the Interior admitted him to the principal mines and prisons, where he became acquainted with some three hundred state exiles—Liberals, Nihilists, and others—and the series will be a startling as well as accurate revelation of the exile system. The many illustrations by the artist and photographer, Mr. George A Frost, who accompanied the author, will add greatly to the value of the articles.

A NOVEL BY EGGLESTON

with illustrations will run through the year. Shorter novels will follow by Cable and Stockton. Shorter fictions will appear every month.

MISCELLANEOUS FEATURES

will comprise several illustrated articles on Ireland, by Charles De Kay; papers touching the field of the Sunday school lessons, illustrated by E. L. Wilson; wild western life, by Theodore Roosevelt; the English Cathedrals, by Mrs. van Rensselaer, with illustrations by Pennell; Dr. Buckley's valuable papers on Dreams, Spiritual, sim and Clairvoyance; essays in criticism, art, and biography; poems; cartoons; etc.

By a special offer the numbers for the past year (containing the Lincoln history) may be secured with the year's subscription from November, 1887, twenty four issues in all, for $6.00, or with the last year's numbers handsomely bound, $7.00.

Published by The Century Co., 33 East 17th St. New York.

POWER REQUIRED TO PROPEL SHIPS.

In making a comparison of the performances of the Burgos and the Jewett in No. 13, Vol. 8, I reckoned the power required for different speeds of the same ship as the squares of the speeds, and I have been asked if I had not made a mistake, and whether I did not intend to reckon the difference of the power in the ratio of the cubes of the speeds.

The two ships were being compared as to their fuel-cost per ton-mile, and the computation was right, whereas, if the fuel-cost per hour were in question it would be as the cubes of the speeds.

It is probable that many have not thought out thoroughly the matter of resistance to a vessel passing through the water, and we may as well consider the subject. It will come up again, in future, for the next generation to straighten out for itself.

When a vessel is forced through water, the particles of water are thrown aside from the path of the vessel. They are really thrown, and not pushed, as the particles of earth are pushed from the path of a plow going through a field. When the particles of water yield to the inclined surfaces of the advancing bow, some of them are tossed up above the original surface at the sides, and some of them push away other particles, and these, others in succession, until the particles at the surface farther out from the sides are also tossed upward. These tossed particles constitute a wave upon each side of the advancing bow. After the upward movement of any particle is accomplished, it presses by its weight upon the particles next below, and these yield in direction of least resistance (laterally), until the succession of impulses has extended outward beyond the layer originally tossed, and then the direction of least resistance is upward again, and another series of particles are tossed, to a less height than the first series. These movements are repeated almost infinitely, and this repetition of tossings constitutes running waves, or rather waves of translation, to be precise.

The water closes in behind the passing vessel in a manner one degree more complex, but I think our friends will follow me through the *rationale*, fix the mode of operation in their minds, and be able to actually see the thing done when next they go out in still water.

When the inclined side of the run of a vessel is passing a particle of water, the support of that particle upon one side is removed, and falls against the surface, leaving the next particles without support, so that a succession of particles are falling downward and toward the inclined and moving surface. This generates inward currents of water upon each side of the run, and depresses the water surfaces for a considerable distance out from the run; in fact, the water falls downward and inward, after the run-surfaces, inversely as it was tossed upward and outward by the bow, the result being two lateral currents meeting each other at the after end of the run, and so meeting, they expend their energy upon each other by tossing the particles upward, and generating a wave similar to the two half-waves at first generated at the bow, but joined together in one. This wave separates into two waves running outwardly, because the fall of each particle is outward and downward in the direction of least resistance, until the one following wave is divided into two waves running outward.

From this consideration of the matter we see that, in moving a vessel through the water we have not only to move the water aside to the extent of clearing and refilling the path, but we have to toss it up so far that it will run twice as far as it would to merely escape from the path and to return, were the fluid compressible and perfectly elastic.

Now, as to the force required to push a well-shaped vessel along at different rates of speed, through a given distance:

Let us take one mile for the distance, and twelve minutes for the time required to get over it, and assume the effort to be (1) continued during twelve minutes. In this case we will have tossed all the particles in the path to a given height, and to a given distance laterally.

Now let us take another rate of speed; this: One mile for the distance and six minutes for the time, and consider what the effort must be.

There is the same amount of water to be removed from the path, which is one mile long. Any particle must be tossed out of the path in half the time allowed in the first supposition, which impels it at a double initial velocity, so that it will go four times as far before it comes to rest, hence, in this last supposition the effort must be four.

As the effort is continued through the same distance in each supposition the power required to do a mile in six minutes will be four times that required to do it in twelve minutes. The mile run in twelve minutes is equal to a speed of five miles per hour, and the mile run in six minutes is equal to a speed of ten miles per hour, and the powers required are as one to four. This ratio corresponds with the squares of the speeds, five and ten; thus: $5\times5=25 : 10\times10=100 :: 1 : 4$. Hence we say that the power required to propel a ship at different speeds over a given distance varies as the squares of the speeds.

But if we are considering the power required to propel a ship during given times at given speeds, we say, the required power is as the cubes of the speeds, because:

At double speed, in the given time of twelve minutes of the first supposition, the ship would go two miles, and we have already seen that one mile at double speed costs four times the power, so that for double distance at double speed the power required will be: $2\times4=8$ times that required in the case of one mile in twelve minutes. Now the cube of any number, is one-eighth the cube of double the number, thus: $5\times5\times5=125 : 10\times10\times10=1000 :: 1 : 8$.

Heretofore we have considered the resistance to displacement and replacement simply. There is a separate sort of resistance called skin friction, or eddy resistance, which should be taken into account in estimating the comparative performance of different ships, but which may be safely ignored in estimating upon the same ships at different speeds.

Eddy resistance comes chiefly from roughness of the immersed surface. Imagine a single minute pin standing out from an otherwise perfectly smooth and repellant surface moving through water. That point would strike particles of water and toss them out of its path, setting up a minute whirl of water following it. The tossing would be in the same ratio for speeds as the tossing for displacement, and therefore the eddy resistance follows the same ratios as the displacement resistance. Now the roughness of surface is practically a multitude of pins studding imaginary perfect surface, and, having determined the power required for one speed, with a certain state of the ship's bottom, it is safe to assume that the whole resistance will be in the ratios above determined for other speeds, up to the speed which begins to break up into short lengths the waves generated by the tossings of displacements; when that speed is exceeded the ratios of resistance increase rapidly.—*Norman W. Wheeler, in Mechanical Engineer.*

THE N. W. T. CO.'S NEW BOAT.

Though the full details of the arrangements for the North West Transportation Co's new boat have not been fully perfected, yet sufficient progress has been made to justify the announcement that she will be built in Canada; that wood instead of steel has been selected as the material for the construction; and that she will be in all essential points a sister craft to that pride of the lakes, the United Empire. She will not be contracted for, but will be built by the company themselves. Mr. John Dyble having been appointed to prepare the plans and superintend her construction. It is the desire of the owners to have the vessel built in Sarnia and there is a reasonably strong probability that this will be done; though the decision depends to some degree upon the comparison between the arrangements which can be made here and elsewhere for oak timber, some four hundred and fifty thousand feet of which will be needed in her construction. If she is put on the stocks here, whip saws will be rigged and the timbers shaped on the ground; and plates for the boilers will also be cut and fitted on the ground, and the boilers put together in the vessel. Her engines will be of the most modern style, triple expansion compound, and as large engines of this class have not yet been undertaken in Canada. The machinery will be contracted for either in Great Britain or the United States. As this pattern of engine involves high steam pressure, the boilers will be correspondingly strong, the working pressure which she is expected to carry being 150 pounds. The intention is to begin work on the boat at once to have her ready to launch before the close of navigation, to have her upper works put on and her outfit completed during the winter, and to put her in commission with the opening of navigation of 1889.—*Sarnia Canadian.*

CLEVELAND SHIPBUILDING CO.

The Cleveland Shipbuilding Company, has capital stock of one million dollars, and the plant is complete on the grounds lately occupied by the old Cuyahoga Works, the Powell tool company, etc. The buildings occupied by these concerns have not only been torn down, but excavations have been made, extensive retaining walls built, roadways and railway tracks laid, piles driven to put the river front in good shape, all to make room for the new enterprise. The following notes are taken of what might be called the four departments in the undertaking; the shipyard itself and its appliances, the boiler shop, the new foundry and the new machine shop.

The yard room is obtained by excavating and building retaining wall against Detroit street hill. The latter is eight feet wide at the bottom, four feet wide at top, twenty feet high, and the whole length is 350 feet. The space thus obtained has a river front of 700 feet and an average depth back from the river of 125 feet. On this ground sufficient room is secured, for two berths for vessels. Between these berths and the wall above referred to, are other appliances of the shipyard. Plate and angle furnaces are both completed. Adjoining these are a 16½ foot plate planer, angle shear, largest size, and an angle punch. Here the company also have three punches and shears built by themselves and weighing twelve tons each, and capable of punching or shearing 1¼ inch steel. Rolls are also soon to be placed into position measuring 16½ feet between housings, and there is also to be a portable punch and shear. In the building above and covering these appliances is the mold loft, a building 40 by 180 feet, which is provided with a band saw for sawing out the molds for the ship. For the boiler shop the company has a building 90 by 200 feet complete in every detail, and for the work to be done there they have provided another punch and shear of their own make same size as in the shipyard, angle punch and level shear, plate planer, 100 ton hydraulic flanger, 100 ton hydraulic riveter, two ton hydraulic crane for the flanger, a 25 ton hydraulic crane for the riveter, and a plate furnace of size to heat an 8 by 16 plate all over at once. Connected with the boiler shop are seven large vaults under Detroit street for fuel, etc.

The new foundry is located on Center street, near the yard and boiler shop. It has a building 60 by 115 feet, with core rooms and ovens, stock house, boiler and engine rooms attached, the brick stack of the works reaching thirty feet above the viaduct, along which the whole building is located. This structure, which it is light and strong, makes a fine appearance. In putting in the floor of the foundry the company has given special thought to making loam and dry sand castings. Two-thirds of floor has a depth of 7 feet of molding sand underlaid with iron beams and holding down bolts. The appliances for work are three 20 ton steam cranes, two hand cranes of iron, Atchinson & Little's hoist in stock house, etc. The cylinder to the engine is 12 by 16 inches, and the boiler to the same a 75 horse power.

The building for the machine shop adjoining the foundry is 106 feet on Detroit street, 112 feet on the viaduct, is 60 feet wide and five stories high. The first and second floors are to be used as finishing shops, the third floor for patterns and storage, fourth floor for drawing and pattern shop, and the fifth floor, fronting on the viaduct, for offices. The building was put up by the Brooks building company. A viaduct arch lying between the foundry and machine shop is occupied as an erecting shop. For this purpose it is supplied with a fifteen ton traveling crane, driven by the machine shop engine. It has a span of 50 feet, lift 30 feet 6 inches, and a travel of 75 feet. This erecting shop is connected with the foundry by railway.

The above are some of the preparations for work which were put into working order any too soon for the engagements the company already have on hand. They have under contract the building of five large triple expansion engines, ten large Scotch boilers capable of carrying 150 pounds of steam, and three steel steamers. Two of the latter are for the Lackawanna Transportation Co., of Buffalo, N. Y., and are to be completed during the spring and summer of 1888. Both steamships will be of the same size, as follows: 280 feet over all, 260 feet keel, 38 feet beam, and 25 feet hold. The other is a ferry steamer, the contract for which has just been closed, will occupy the berth to be made vacant by the launch of one of the Lackawanna steamers, which event will take place on Saturday.

CANADIAN CONTESTANTS FOR THE WASP CUP.

Commodore Gardner, of the Cleveland Yachting Club, has received the following letter relative to the proposed yachting race for a $500 cup to be put up as the prize for the fleetest vessel in a thirty-six mile course. It is likely that all arrangements can be completed, and that several Canadian yachts will take part. The regatta will likely take place during the last week in June. The following is the letter:

HAMILTON, ONT, March, 22, 1888.

Secretary Cleveland Yacht Club, Cleveland, O:

Dear Sir: The papers have been reporting a movement on foot in your city to hold an international regatta on Lake Erie. Could you inform me what are the conditions proposed and class limits? No doubt you are aware that the Lake Yacht Racing Association has always held its cruise and series of races between July 28, and August 15, as this comprises some seven races: Hamilton (2,) Toronto, Charlotte, Oswego, Kingston, Belleville. I doubt if any Ontario yachts would leave this series for Cleveland if your dates were arranged for this period, so I trust you will try and arrange a date not to conflict, as I know of several yachts who would go up to Cleveland. I would be glad to bring my yacht, the White Wings, forty-three feet L. W. L., to compete, for one. What will be your rule of measurement the N. Y. Yacht Club rule or Seawanaka rule? One of these I suppose, as either represents the most advanced system. Could not the "Verve," of Chicago, be got to compete? She is undoubtedly very fast and having her in would make it very interesting. Last autumn I made an effort to meet the Alice Enright, of Toledo, but she went off to St. Clair instead. A sweepstake race between Verve, of Chicago; City of Straits, of Detroit; Alice Enright, of Toledo; Alarm, of Buffalo; Merle, of Oswego; White Wings, of Hamilton; Verve, of Toronto; Cygnet, of Toronto; and your own craft of this size, for, say $100 apiece, would add greatly to the interest of the regatta. As boats under forty-five to fifty feet can't expect to compete successfully for the championship against much larger vessels. I would suggest forty-five feet be the limit for a sweepstake race such as I have depicted. I believe the scheme is quite practicable if some one would only take the initiative, and as Cleveland is about as central a point as any, why not there? I would be glad to enter, and I am sure many others would also.

Trusting you will excuse me for taking up so much of your valuable time, and that my suggestions will be taken as purely in the interest of yachting, and that they will meet with your approval, I am yours, etc.

AMILIUS JARVIS,

36 King street, E. Hamilton, Ont.

OFFERS have been made for wheat from Duluth to Buffalo for 4 cents but the vessels will not accept this, preferring to wait for a problematic better rate. Furnace men are not buying great quantities of ore as yet though considerable has been sold for Lake Michigan furnaces. The sales have been made at 40 to 50 cents per ton below last season's rate. There have but few coal contracts been made as yet, the largest being probably the 120,000 tons of the Canadian Pacific railroad. Receipts at the head of the lake will be fully 1,500,000 tons and at other Lake Superior ports, Ashland, Washburn, Marquette, and the like probably 500,000 tons. The coal men have entered into a combination regarding rates, but have made no open moves as yet, and coal rates will probably be low.

The Marine Record.

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A Halifax inventor has brought to the notice of the minister of marine and fisheries a novel scheme for the construction of a submarine cable railway to connect Prince Edward island and the mainland. There is to be a single track of plate steel, in sections of 20 feet length, V-shaped 2½ feet wide at the top and 1½ feet in depth, which is to be made hollow and air tight so as to float. From the lower point of the V-shaped track two chains, running out obliquely and attached to heavy granite pillars on the bottoms, will keep the floating track in its proper position at the required depth under water. On the top of the track, and attached to it by wheels running underneath flanges projecting on each side, there will move an air-tight cigar-shaped submarine car, drawn by an endless chain, worked from the shore at each end. This car is to be constructed of sheet steel, four feet wide, six feet high and thirty feet long, and the main internal compartment will be fitted with seats on each side, and a passage in the center. Each seat will hold one person. At the end where the car tapers off there are to be air-tight compartments, which will give buoyancy to the car, and from which the passenger compartment will be supplied with fresh air. The car being light at the top and buoyant with compressed air, will retain its upright position and make the passage of ten miles through the water in about twenty minutes. The time to construct the railway is estimated by the inventor at about two months, and the cost at $50,000.

BUFFALO ELEVATOR CHARGES REDUCED.

A meeting of grain dealers' elevator authorities and railroad officials was held in Buffalo, Feb, 18, to consider the proposition made by twenty-six leading grain dealers of the city, to put all car grain into elevator on arrival. The meeting was private, but it was learned that the proposition to lower elevator rates from three-fourths of a cent per bushel was virtually agreed to for wheat and corn, but the roads did not agree to rebate more than an eighth of a cent on oats. The roads are to rebate half this amount to the shipper when the latter settle. The former have no right to make rebates they say, but will arrive at the same result by making their payments to the elevator direct. A letter received in Chicago from Buffalo on this matter says: We desire to inform you that under an arrangement with the railroads centering at this point, which we trust will be consummated soon, all grain shipped to us will pe put in store here immediately on arrival at an expense of one-fourth cent per bushel to the grain for elevator charges and five days, free storage. The subject of lake transportation rates was not discussed at the meeting.—Chicago Grain Trade and Elevator.

OPENING LIFE SAVING STATIONS.

Lieutenant Rogers, Inspector of the life-saving station of the eleventh district, says all of the life-saving stations under his direction will be opened for service April 1, next. Work on the new station at Michigan City, Ind., will be commenced forthwith, and the building will be completed in time to be commissioned in September. There will be seven surf men and one keeper employed there. A site has also been secured. Lieutenant Rogers says, for a new life-saving station at South Chicago, where so many wrecks occurred recently, and the building will probably be erected and equipped during the present season.

The route of the Dixon, the new boat just bought by the A. Booth Packing company will be from Duluth to Silver Islet, thence across the lake and home. She will make this trip twice a week. The Camp will probably be sent to Manistique to do fishing business. The Dixon, which has already been described in these columns, is a fine craft and will prove a great addition to the Duluth fleet. That veteran navigator Capt. Wheeler, will command her, and if any man can keep a boat out of trouble and up to her work, he is the man.

Capt. Paul Harry, of Milwaukee, has completed an invention whereby vessels will be enabled to communicate with each other, either by night or by day, at a distance of half a mile. It promises also to be especially useful in reporting at night while passing Cheboygan or Mackinac City, or Port Hnron, and can be used to good advantage by life-savers in communicating with crews of shipwrecked vessels while preparing to render them assistance. The invention does away with the old-time signals of the ocean, and relies entirely upon the Eeglish alphabet in letters two feet high, whereby names aud sentences can be spelled out in full so clearly that no mistake is possible. It promises to be very handy on steamers and their tows during heavy weather for the purpose of conveying information concerning the condition of the fleet and their necessities Something of this kind has long been required on the lakes and Captain Harry's invention gives promise of filling the bill. His "machine," which is by no means cumbersome, can be inspected at P. A. Stamm's hardware store on National Avenue.

The Buffalo Yacht Club fleet at present consists of eleven yachts: Sloop Alarm of Buffalo, John S. Provoost, owner; sloop Edgar B. Jewett of Buffalo, C. B. Hill and E. C. Roberts, owners; sloop Walrus of Buffalo, the Hon. H. H. Guenther, owner; sloop Turk of Port Dover, Ont., Judge Livingston of Simcoe Ont., owner; sloop Iolanthe of Bellville, Ont; yawl Emma of Buffalo, A. N. MacNabb and L. G, Northrop, owners; schooner May Belle of Buffalo, David Eckley, owner; cutter Sylvia of Buffalo, R. W, A. S. and H. L. Chisholm and H. E. Parrish, owners; cutter Vera of Port Dover, Ont., Andrew T. Ball, owner; cutter Erchless of Oakville, Ont., George H. Chisholm, owner, steamer Little Mack of Dunkirk, N. Y. A. J. Avery, owner.

CAN SHE BEAT THE DAVY CROCKETT?

An ocean yacht race over a course nearly 20,000 miles long would be a very exciting event were it an actual contest between two vessels at the same time. The yacht Coronet, which put to sea on Thursday for a voyage around Cape Horn to San Francisco, has no visible competitor, but her trip will still be regarded as in one sense a race against time and against the old speedy kind of vessels known as clippers, so popular twenty five years ago. The fastest record ever made between Sandy Hook and the Golden Gate was achieved by the famons clipper Davy Crockett, whose time was eighty-four days. The distance is said by the sea captains on South street to be full 17,000 miles. The fastest time across the Atlantic, Sandy Hook to Lands' End, has been made by a merchant vessel, not by a pleasure yacht, as many people suppose. It remains to be seen whether the Coronet will break the Davy Crockett's record. This is the reason so much interest is taken in her trip by the South street shipping merchants.

A meeting of the Buffalo Yacht Club was held last evening in the office of Messrs. Hawkins & Williams, with Commodore Williams in the chair. The building commitee reported that the new clubhouse would probably be completed by next Saturday. The house is situated at the end of the sand-catch pier at the foot of Porter Avenue, which is under the control of the Yacht Club.

Messrs. R. W. Chisholm, Charles B. Hill, and W. C. Cowles were elected as the house commitee, and Messrs Henry S. Hill and S. L. Woodworth were elected active members. The following were then made life members: Messrs. E. N. Cook, O. P. Letchworth, Thomas Loomis, Edgar T. Brinker, G. N. McWilliams, Charles O'Day, N E. McIntyre, Andrew Langdon, Henry N. Box, and Captain Frank Perew.

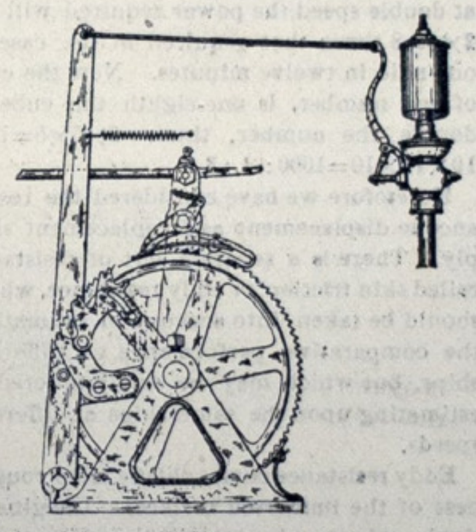
The next meeting will be held in the new club-house in about two weeks, and arrangements will then be made for the formal opening.

Petroleum as fuel for ocean steamers is making considerable head-way. Its advantage over coal lies principally in the fact of its comparative cheapness. It occupies scarcely half the space of coal, and can be taken on board in much less time. Practically this would amount to a considerable saving of money, leave more space for cargo and do away with much of the detention now incurred at coal ports. The first, however, is of the utmost importance to both cargo and passenger steamers, particularly the fast Atlantic steamers. The consumption of coal by the latter is very great and eats up the most if not all of their earnings. If oil can be safely used as fuel on board of steamers and with as good results as that given by coal, it will do much to reduce a large item of expense to all steam vessels. The Russian Admiralty has ordered a number of their gun boats to be fitted with furnaces suitable for burning oil. And it is stated that this fuel is likely to be adopted by a line of steamers between England and Australia. That these experiments will be watched with interest there is no doubt, and if successful they will have a large following among all classes of steam vessels.

THE CHASE FOG WHISTLE MACHINE.

The dangers attending fogs on the lakes are well known to all of our sailor men, and all know that the regulations require that during fogs, a signal shall be sounded at regular intervals. Under the old system of fog signals, the service and close attention of a man was required at all times while navigating in a fog, and this service became so monotonous that Mr. Chase, engineer of the steamer Ohio, devised and patented a machine which, when attached to the engine, would sound the fog whistle automatically.

The cut shows the position of the machine and its action on the whistle.



During the season of 1887, the following named steamships "thirty in number" were supplied and equipped with our machines. The same having given entire satisfaction in each and every case, we refer with pleasure, all those interested, to the owners and masters of said steamers.

Wilson Transit Line, Cleveland, O.—Steamers Spokane, Wallula, Kasota, Tower, Yakima, Missoula, Sitka.

N Western Transportation Co., Detroit, Mich.—Steamers Fayette Brown, R. J. Hacket, Forest City.

Cleveland Transportation Co., Cleveland, O.—Steamers Sparta, Havanna, Vienna, Townsend.

Bradley Transportation Co., Cleveland, O.—teamers City of Cleveland, Henry Chisholm, Superior, E. B. Hale, M. B. Grover, J. S. Fay, R. P. Ranney.

H. H. Brown, Cleveland, O,—Steamers Smith Moore, Chas. J. Sheffield.

Owen line, Chicago, Ill.—Steamers Ira H Owen.

Cambria, Outhwaite, Saml. Mather, R. R. Rhodes, Columbia, Aurora.

The machine is at all times under the control of the captain. That is if it is necessary that a signal shall be given to a passing steamer, or for any other purpose; the moment the captain pulls his wire, the fog whistle machine is thrown out of gear and will not resume its sounni g until it is permitted to do so by the master.

Following is the report presented by the committee.

To the President and Board of Supervising Inspectors of Steam Vessels.

Your committee to which was referred the "Chase Fog Whistle machine" beg leave to retort: That we have carefully examined the same and find that it blows at regular intervals, being worked by the engine, thereby insuring regular and continuous blasts for any length of time that may be required and would recommend it or similar device to owners of steam vessels as an additional safe guard to navigation.

H. S. LUBBOCK,
GEO. H. STARBUCK, } Committee.
W. D. ROBINSON.

The manufacturers are the Chase Fog Whistle acMhine Co., corner of Elm and Spruce streets, Cleveland, O.

THE Duluth Herald, commenting on the views of local vessel men, shows that lake carriers and ore produces are still far from a settlement of their differences regarding freight rates and from the feeling displayed by the heavy vessel owners it is evident they are not discouraged nor anxious. They agree that "there is to be a good season in the iron ore business, although neither ore profits nor the profits of the mines will reach the figures of last year. Railways have made money and traffic is constantly growing and an immense amount of iron will be consumed in railway equipment, cars and the like. The demand from these sources will be good. Coal handling will be greatly in excess of last year. Duluth alone will increase her receipts by half a million tons and about 120,000 tons will be delivered at Port Arthur and Fort William by the Canadian Pacific. Wheat is not so plenty at upper lake ports at present but the chances are that the amount at several lake ports will be largely increased by the opening of navigation and that considerable will move forward from the country after that." Considering all the prospects the vessel men are waiting and are not willing to accept the rates offered by either the iron ore producers or grain shippers.

OBITUARY.

CHARLES LATIMER.

The late Mr. Charles Latimer, civil engineer, who died suddenly at his residence last Sunday, was, during the early part of his career a member of the marine profession, and carried a hearty and cheerful recollection of his nautical experience through life. The writer has good reason to remember his extreme kindness of heart and mind, and his ever ready spirit to assist members of the fraternity in all cases brought under his notice. It was but the other day in conversation with a seaman acquaintance, he expressed the belief that he could tack a square rigged ship just as smart and exact as he had done forty years ago. The city has lost a splendid citizen, and his acquaintances an inestimable friend.

Vessel Owners! The Cheapest Bedding Supplies!

Are furnished as, *Comfortables, Blankets, Table linens, Towels,* etc., as well as *Sheets, Pillow-cases,* are *sewed to order,* at shortest notice, for 20 per cent less than big expensive establishments are accustomed to charge. Owing to the extreme small expenses of the Boston Dry Goods Store of Kohn & Co., 213 Detroit st., second door from corner Pearl it is *them only* who save 20 per cent unnecessary taxes. Give a trial order to KOHN & CO., 213 Detroit st., second door from corner of Pearl.

Century Magazine

With the November, 1887, issue The Century commences its thirty-fifth volume with a regular circulation of almost 250,000. The War Papers and the Life of Lincoln increased its monthly edition by 100,000. The latter history having recounted the events of Lincoln's early years, and given the necessary survey of the political condition of the country, reaches a new period, with which his secretaries were most intimately acquainted. Under the caption

LINCOLN IN THE WAR,

the writers now enter on the more important part of their narrative, viz.: the early years of the War and President Lincoln's part therein.

SUPPLEMENTARY WAR PAPERS,

following the "battle series" by distinguished generals, will describe interesting features of army life, tunneling from Libby prison, narratives of personal adventure, etc. General Sherman will write on "The Grand Strategy of the War."

KENNAN ON SIBERIA.

Except the Life of Lincoln and the War Articles, no more important series has ever been undertaken by The Century than this of Mr. Kennan's. With the previous preparation of four years' travel and study in Russia and Siberia, the author undertook a journey of 15,000 miles for the special investigation here required. An introduction from the Russian Minister of the Interior admitted him to the principal mines and prisons, where he became acquainted with some three hundred state exiles—Liberals, Nihilists, and others—and the series will be a startling as well as accurate revelation of the exile system. The many illustrations by the artist and photographer, Mr. George A Frost, who accompanied the author, will add greatly to the value of the articles.

A NOVEL BY EGGLESTON

with illustrations will run through the year. Shorter novels will follow by Cable and Stockton. Shorter fictions will appear every month.

MISCELLANEOUS FEATURES

will comprise several illustrated articles on Ireland, by Charles De Kay; papers touching the field of the Sunday school lessons, illustrated by E. L. Wilson; wild western life, by Theodore Roosevelt; the English Cathedrals, by Mrs. van Rensselaer, with illustrations by Pennell; Dr. Buckley's valuable papers on Dreams, Spiritual, sim and Clairvoyance; essays in criticism, art, and biography; poems; cartoons; etc.

By a special offer the numbers for the past year (containing the Lincoln history) may be secured with the year's subscription from November, 1887, twenty four issues in all, for $6.00, or with the last year's numbers handsomely bound, $7.00.

Published by The Century Co., 33 East 17th St. New York.

VOL. X NO. 14. CLEVELAND, O., APRIL 5, 1888. $2.00 PER ANNUM. SINGLE COPIES 5 CENTS.

AROUND THE LAKES.

CLEVELAND.

The Canadian tolls through the Welland canal will be the same as last year, 2 cents per ton.

The City of Cleveland came in Tuesday morning and the same afternoon the schooner J. B. Kitchen left this port for Lorain.

The steamer Handy Boy arrived with stone from the Islands, and the tug S. S. Stone left for the Islands with the schooner Baldwin.

Captain Frank B. Grover has received the appointment as master of the Cleveland, Lorain and Wheeling tug Selah Chamberlain.

Tug Cushing, with schooners Ferguson and Old Concord, left for Lorain to load coal for Kelley's Island and bring back stone.

The hull insurance went into effect April 1st. The Commercial Union Insurance Co. has decided to write marine insurance business this season.

Captain E. Morton, of Painesville, and his little son Ed. were in the city Tuesday. Captain Morton will sail the steamer Sitka again this season.

Captain Stover will command the Fairbanks again this year, and Captain Millard, last year master of the Oscar Townsend, will command the Rhodes.

The wife of Captain H. A. Lamar, an old time skipper, died very snddenly on Tuesday of this week. Captain Lamar has the sympathy of his many friends in the hour of his affliction.

The Marion Page is undergoing some repairs at Radcliffe's yard. She is receiving new upper works, new pawl post, new butts, a new windlass, and being put in good trim for the coming season.

The recent rains have melted the snow and ice sufficiently to raise the water in Lake Erie about eight inches, and with the spring rain which we usually get this time of year it is thought the water will not be much lower than it was last year.

At Radcliffe's yards they are making some extensive repairs upon the schooner Kingfisher. She is getting new upper works, stanchions, bulwarks, timberheads, upper-rail, and a general overhauling to put her in first-class condition.

Bates, Metcalf & Co. have bought out the boating interest formerly owned and conducted by Mr. Hanks at Wade Park, and are erecting a $3,000 boat house. They will add a restaurant to the boating facilities, and make Wade Park a pleasant point for pleasure, boating and fishing.

Captain C. H. Lane, of Buffalo, has been in the city this week, looking after his vessel property, which has been undergoing some repairs, visiting old friends, and endeavoring to make a sale of the propeller Nashua for the widow of the late Captain Hamilton, of Buffalo. The captain is looking well, and feels very confident that '88 will be a good year for vessel men.

Messrs. Upson, Walton & Co., of this city, have secured the agency for the celebrated metallic life boats, manufactured by Thomas Drein & Sons, Wilmington, Del., whose ad. appears on another page in the RECORD. The reputation of these boats warrants us in saying it would be well for those contemplating the purchase of such goods to call and examine the three 20-feet boats, Messrs. Upson, Walton & Co. have in stock, as samples, before buying anything of an inferior grade for the same money.

The life saving station at this port will go into commission in a few days with Captain Chas. C. Goodwin keeper, Lawrence Distel No. 1, L. Warren No. 2, J. McIntyre No. 3, P. Carolin No. 4, T. Foden No. 5, R. Gray No. 6, and D. Goodwin No. 7. The station usually goes into commission about April 1, but the "powers that be" feel duty bound to "economize," so it may be the 10th and possibly the 15th, before the men can go to work.

At the Globe shipyard work is being rapidly pushed. The boilers are in the Wilbur, and in about a week from to-day the Hill boat, building for the Manitoba R. R. Co., will be launched. She is a fine looking piece of work, and reflects much credit upon her builders. Mr. John Smith, who has superintended the construction, may well congratulate himself upon the results of his labor, for much of the credit is due to his careful management, forethought and judgment.

Last week we stated that the steamer New Orleans had been purchased by E. Cunningham, of the Delta Transportation Co. We were in error, having been misinformed. The New Orleans was bought by James P., T. B. Wallace and E. Cunningham, of Detroit, from W. B. Morley, of Marine City, and the H. A. Kent was sold by James P., T. B. Wallace and E. Cunningham to John Warner and Captain Byrnes, of Cleveland, and T. B. Wallace and E. Cunningham sold the steamer Wm. Christie to E. L. Thompson, all of Detroit.

At the yard of Messrs. Quayle's Sons the A. P. Wright has her boiler on deck, and by Monday of next week this will be placed, and in a week or ten days she will be ready for sea. The Ash steamer has her machinery all aboard, planked, calked, and has a coat of paint. She will probably be launched in a week, and immediately following the steamer will be the schooner building for the same party. She is nearly as far along as the steamer, and if nothing occurs to prevent, will be launched in about a week or ten days after the steamer. The Moore, Bartow & Co.'s boat is being rapidly pushed. She is all in frame, with floors laid, and by Monday they will commence her lower deck frames.

W. H. Conner, of the United news association, headquarters at Detroit, was in the city last Friday.

Capt. John Wysoon, long time master the tug Forest City, and who is heavy enough to cast a long shadow, got there. On Monday the captain was elected councilman of the 30th ward, and if he knows as much about side walks and street light as he does about side lights and running tugs the city council has gained a valuable adjunct to its staff.

At the Globe dry dock, since the Argonaut well on the Outhwaite has been calked and repaired. The Wallace has been looked over and some work done in her. The Camden has been calked between wind and water, and the Everett which leaves there this afternoon has been recalked and overhauled, she will be followed by the J H Devereux which will receive some minor repairs, etc.

Meteorological summary for the week ending April 4, 1888:

Mean actual barometer	29.26
Mean temperature	39.3
Mean humidity	75.0
Total precipitation	0.89
Prevailing direction of wind	West.
Total wind movement	1306
Av. cloudiness	5 4
Av. state of weather	Fair.
Max. temperature, highest	70.3
Min temperature, lowest	29.4

W. H. HAMMON, Sergt. Signal Corps, U. S. A.

DULUTH.

The tug Hope goes to Ashland early in the spring. Repairs are now being made on her.

Capt. Barker is building a large and substantial dump scow for use with his dredges during the year.

The council will probably appoint a harbor master soon. The position is one of importance to shipping and no less to Duluth and such appointment should be made.

The propeller V. Swain is being overhauled at her moorings in the elevator slip. Extensive boiler rapairs are being made on her at a cost of about $2,700. She and her consort will carry out wheat as their first cargo.

Several of Williams, Upham & Co's. dredges and tugs are being over-hauled and made ready for spring. The Eliza Williams will have practically a new boiler, the Upham is being rebuilt and enlarged and will make a very fine tug, and several other boats of the firm will be improved.

ST. CLAIR.

Special to the Marine Record.

Eugene Smith, aged 67 years, died at his residence Thursday, March 29. He formerly owned the barges M. R. Goffe and Hemisphere, and at the time of his decease was one of the principal stockholders of the St. Clair Steamship Co. He was a very old resident and was greatly respected for his universal kindness and generosity.

Thompson Bros., salt manufacturers, have purchased the steambarge Bessie of Sandusky parties; consideration $6,000. They will use her for carrying salt and coal.

J. C. H. Pringle will leave for Ashland this week and will get ready to commence the business of vessel agent and broker and ore trimming at the opening of the season. He will be glad to have all his friends call on him and will use them well and give them quick dispatch.

The barge building by Simon Langell for John L. Woods, Cleveland, is drawing near completion and will be launched about the 20th of April. Her length is 187 feet over all, 34 feet beam, 12 feet 2 inches depth of hold. She is very strongly and well built and is diagonally iron strapped. She will have an American Ship Windlass Co.'s steam capstan and windlass. She will tow with the steamship Kalkaska.

The barge which Simon Langel is building for the St. Clair Steamship Co., will be ready for launching in May. She is 250 feet over all, 40 feet beam, 23½ feet molded depth. She is constructed so that steam power can be put in her. She will have an American Ship Windlass Co.'s steam capstan and windlass. She will be consort to the steamship Kaliuga.

Captain T. Emmy is giving the schooner Goodell ten new stanchions on the port side, new stern, jibboom, repairs to center board box and decks, and calking. Captain Emmy has sold one-half interest in the Goodell to Captain Ed Rice; consideration $1,300. She will tow with steambarge Mackinaw in the Black River and Cleveland lumber trade.

Captain W. C. Brown has purchased one-fourth of the steambarge Oswegatchie and will command her this season. He is having a new stern put on her, is giving her a general overhauling, and fitting her up in good shape. Captain Brown has purchased one-fourth of the barge Alice Richards and sold one-half of the barges Goffe and Genesee.

WILLIAMS.

MARINE CITY.

Special to the Marine Record.

A new shipbuilding company, to be known as the Marine Transit Co., has been started here, Captain David Lester being president. The company will commence this month building a steambarge, about 180 feet long, and two consorts for the lumber trade.

Robert Holland is about to lay the keel for a steamship, length of keel 212 feet, over all 226 feet, breadth of beam 36 feet, depth of hold 14 feet. She will be constructed as follows: Two main keelsons 14 by 14, two assistant keelsons on each side 14 by 14, two rider keelsons 12 by 14 to receive lower end of stanchions under deck frame, floors 6 by 17, and an extra floor 6 by 17, extending to each bilge; bilge keelsons three strakes 6 by 10, two 7 by 10, two 8 by 9, two 6 by 9, ceiling from bilge keelsons to clamps 5 by 10; three strakes of clamps 6 by 12; shelf pieces comprise three strakes, two strakes 5 by 12, center strake 6 by 12, notched into deck frame one inch; hanging knees under every deck frame. She will have a steel cord 8 by ⅞ths, running from stem to stern, and diagonal steel strapping 4½ by ⅝ths. Her planking outside will be 4 and 5 inches in thickness. She will carry three spars. Her engine will be fore and aft compound 27 and 50 by 40; boiler 12 by 16. The Phœnix Iron Works Co., of Port Huron, will build the engine and boiler.

The steambarge, to be built by M. P. Lester for the T. and S. T. Co., will be 186 feet over all, 31½ feet beam, 12½ feet depth of hold. Her engine will be a steeple compound 22 and 40 by 40; boiler 9 by 16, to be built by the Phœnix Iron Works Co., of Port Huron. Trout, of Buffalo, will supply a 10-foot wheel for her.

Captain H. Donaldson will command the steambarge Araxes.

The steambarge A. A. Turner, Captain W. H. Scott, has received considerable repairs. She will go to Port Huron and receive a new boiler 9 by 16, of ⅝ths steel, also new keelsons. Her consort, the barge Montpelier, has received considerable repairs and calking.

Captain A. C. Smith is here from Detroit looking after repairs being done on the steambarge Birckhead.

The fine new steamship W. B. Morley, building at this port, has all her frames up, ceiling on, and plank on bottom, steel cord and strapping and deck frames all in place. She is 293½ feet over all, 41½ feet beam, 23½ feet molded depth. Her engine, a triple expansion, 19, 30, and 52 by 40, and two Scotch boilers, 11 by 11 each are being built at the Detroit Drydock Co.'s engine and boiler works. W. B. Morley intends launching her about June 1st, and she will go to Detroit and receive her machinery and boilers, and be ready for business about July 1st. She will carry four masts and will be fitted out with the Providence improved steam windlasses and steam steering gear.

WILLIAMS.

SARNIA, ONT.

Special to the Marine Record.

Captain Alex. Birnie, of Collingwood, is here, looking after the work doing on the steambarge Africa, which he commands, and the schooner Marquis, one of her consorts. The Africa is having her decks calked, extensive repairs to her machinery, and a new smoke stack. She will also receive a new Trout wheel, which will be put on at Port Huron. The Marquis has received new bow, stanchions, rail, and covering board, considerable new ceiling, several strakes of plank, a general overhauling, and has been in dock and recalked. The barge Severn, another consort of the Africa, is at Collingwood, where she has received new stanchions forward, covering board, rail, mast partners, and hatchways, some new ceiling, and had her decks calked. The Africa and her consorts will trade between Georgian Bay and Chicago with cedar. James Wilson, who was second engineer on the steamer Alberta three seasons, will go first engineer on the Africa. Captain Larsen, of Toronto, will command the Marquis, and Captain Crawford, of Sarnia, the Severn.

Captain Robertson commenced fitting out the steamer Empire on Monday.

The schooner Wawanosh, Captain John Reid, has received new keelsons, centerboard box, refastening all over and calking.

WILLIAMS.

IRONVILLE.

Special to the Marine Record.

Captain A. Gillmore, has built for D. Y. Howell & Son, a screw steamer 90 feet over all, 18 feet beam, 8 feet depth of hold. Her engine is 13½ by 16, boiler 4 by 9, Trout wheel 5½ feet diameter. She will carry from 250 to 300 passengers. She is a handsome strongly built boat and will be launched this week and named the Douglas, Captain John Edson, will command her.

Immediately the Douglas, is launched Captain Gillmore, will lay the keel and commence building a tug 55 feet over all, 12 feet beam 6 feet depth of hold for Davis Brothers her frames are all ready to go up. He is building a new dump scow 75 feet long, 23 feet wide, 7 feet deep for Captain N. French. He will place the schooner Montgomery in drydock at once and do repairs on her which will amount to three or four thousand dollars.

WILLIAMS.

BAY CITY.

Special to the Marine Record.

The passenger steamer Plough Boy commenced running between this port and Saginaw Monday afternoon, April 2d. She is the first to make a start.

The steambarge Burlington, owned by J. F. Whittemore and Captain E. D. Ballantine who will command her, is receiving new stanchions, rail, solid bulwarks, new decks and deck beams around the boiler, new cabin, engine room and boiler house, a new steel boiler, 8½ by 15, to carry 120 pounds of steam, built by the National boiler works, Bay City, and a new cylinder to her engine by the Bay City iron works. The whole of the work doing on her will cost about $9,000 She will go in the Ohio trade, and will tow four or five barges.

J. F. Whittemore's barge Aramantha is receiving new deck frames and deck, stanchions and rail, solid bulwarks, some new plank outside, new breast hooks, knighthead, and recalking. She is chartered for the season, and will tow with the Germania between Bay City and Toledo. Captain Oscar Olsen will again command her.

Captain Simon O'Day, of Muskegon, is here, having some alterations made and a thorough overhauling given to his new purchase, the steambarge D. W. Powers.

The barge Montgomery, Captain C. K. Jackson, is in the Bay City drydock, receiving new cants aft, part new decks, and a general overhauling and calking. She will tow with the steambarge D. Leuty, as will also the barges Botsford, Exile and Jackson

WILLIAMS.

MILWAUKEE.

Special to the Marine Record.

The weather of the last few days has had a very perceptible effect on the air at this port and our river is now open in all branches.

The M. F. Butters will probably be the first lumber barge to try the east shore ports, and if she succeeds in making an entrance to Ludington or Muskegon, she will be followed by the rest of the fleet.

The Milwaukee syndicate boat will be launched about the 14th of this month, and will be followed in two weeks by the Starke barge.

The Thomas Davidson, at the Wolf & Davidson yard, is nearly ready, and will probably be in the water by the 15th.

The Milwaukee Tug Co.'s mammoth boat, building at Sheboygan, is now in frame, and it looks as though she would be ready for the water by August 15 or September 1 at the outside.

Vessel property rules strong, judging from a sale just made of a 1-24th interest in the steambarge Omaha, at the rate of $90,000 for the whole. This boat has been out a year, and was built at a cost of $70,000. That don't look like a poor season.

The steambarge Massachusetts went into dock for minor repairs, as did also the Joys.

There are rumors of several new boats being built, but we are not at liberty to divulge particulars.

Our shipyards are now supplied with electric light plants so as to facilitate night work.

The Milwaukee Shipyard Co. have about completed their stationary drydock, and will open it up for work very soon.

The deck frames and considerable other of the work is well under way for the Omaha No. 2, at the Milwaukee Shipyard Co.

The steambarge Veronica will come out in the spring with a new dress of dark green and white upper works.

The W. & D. S. S. Co. were offered a bonus of $10,000 to give up the charter made last fall to carry 50,000 tons of ore from Marquette to Lake Erie ports, at $1.40. They refused.

Jas. Sheriffs estate report minor repairs as made on the steambarges Minnesota, Massachusetts, Merrimac, Monahansett, Starke, Joys, Chipman, Ballantine, Nahant, Carter, Huron City, and several others; also, new wheel, shoe, brasses, etc., on the barge L. Pahlow at Detroit, and new crosshead, brasses, etc., on the barge E. Tice at Manitowoc.

EST.

Downey & Mullins, grain trimmers, started to load the schooner St. Peter at elevator No. 5. She takes wheat to Cleveland at 1½ cents. This is the first cargo from this port this season.

SHIP AND SUN.

The poet of the House and Lot, Chicago, has perpetrated the following: The mind's eye, to make things go rightly, must conceive the ship, crowned pinnacle of the new board of trade building, with a fat-faced, radiant picture of the sun in close proximity. Thus grinds the poet:

I.

Aloft in space—fit framed by azure sky,
And swept by swallows as they homeward fly—
A golden ship, with golden sails displayed,
Triumphant rides the pinnacle of trade.

II.

His Royal Highness, Sol, bright King of Day,
Who in his daily rounds doth pass this way
To cast o'er shining sails his sunny smile
Holds conversation with it for a while.

III.

"Oh! Emblem of the great commercial worth
To which this noble city owes its birth;
You represent to us the glorious West,
And fitter symbol ne'er has it possessed."

IV.

"Ay, ay, good Sun, and look around me here.
Behold the stately buildings of a year,
LaSalle street—long neglected—what a sight,
These walls keep out your rays from morn till night.

V.

"Come, come, sir, tell if ever on your round
A city such as this you may have found;
So swift in growth, so firm and strong in form,
So beautiful—with strength to meet the storm."

VI

"And still your West is but an infant yet—
Mammoth it seems, but much there is to get;
And though it's growing fast, so grand and fine,
In very many things it is behind.

VII.

"O'er Eastern lands, I traveled, sir, last night,
And there, beheld, ah! such a doleful sight;
The corn, for want of which the children cried,
Lay useless in the fields my beams had dried.

VIII.

"And must these helpless children starve for food,
While in your glorious country many a rood
Of yellow grain to willful waste must run,
Because the glut of mart low price has won?

IX.

"With navigation lies the fault, you'll find;
For could our products reach a foreign clime,
At rates so low that it would pay to try,
Our plenteous grain to ship so they might buy.

X.

"Then heed this wise suggestion Old Sol makes,
As in the past, in future trust the lakes;
Canals so deep 'twixt them and St. Lawrence make.
That large tonnage vessels then could cargo take

XI.

To foreign ports at such a nominal rate
That choking bins in many a Western State,
Would give to them their wealth of golden store,
And poor, starved Asia's suffering would be o'er."

XII.

"A wise suggestion, noble King of Day;
Consideration worthy, as you say.
So shine again upon these sails while passing by,
Smile brighter when your enterprise we try."

MEDALS FOR HEROES.

There was a large gathering at the town hall to witness the presentation of medals, to the captain and crew of the Goderich life boat, from the American government. On the morning of the 9th of December 1885, it was discovered that the American schooner A. C. Maxwell of Cleveland, laden with pig iron, and bound from Escanaba to Cleveland, was driven on shoals, a couple of miles south of Goderich, where she lay helpless with the waves beating over her. For four previous days she had been battling with the storm out on Lake Huron, but her steering gear having become unmanageable all efforts to keep her off the shoals had proved unavailing. The hoisting of signals of distress and the ringing of the alarm bell on the ill-fated vessel, caused the immediate launching of the life boat, and Captain Wm. Babb and the crew, Dan McIver, Neil McIvor, Malcolm McDonald, John McDonald, John McLean and Tom Finn started for the wreck. Although a heavy sea was running, the rescuers succeeded in taking from the disabled vessel the entire crew, consisting of the captain and crew of five men, and one woman, and bringing them safe to land, although in a helpless condition. The presentation was in commemoration of the good work done that day, and Captain Babb was made the recipient of a gold medal and each of his men received a silver medal. The medals all bore the name of the rescuer together with the words, "In testimony of heroic deeds in saving life from the perils of the deep." On the obverse side of the medal is the representation of a drowning man being rescued by an angel of mercy.

Mayor Seager occupied the chair, and opened the meeting by stating that too much could not be said in favor of the bravery of the men who had taken their lives in their hands to save the lives of their fellow men. The U. S. authorities in recognizing the service of the crew of the Goderich life boat in this matter had exhibited a spirit of international good will that was highly praiseworthy.

Mr. R. S. Chilton, American Consul at this port was introduced, and said:—"It gives me pleasure to be present on an occasion like this to witness the presentation of medals awarded by the government of the United States to Captain Babb and others for meritorious services rendered by them in the rescue last autumn of the crew of the American schooner "A. C. Maxwell." At the time this occurred I called, in the line of my official duty, the attention of the department of state to these services, and I am gratified that the appreciation of my government has taken this tangible shape. The presentation of such testimonials by governments to individuals is, as you are aware, not uncommon, and is always gratifying, especially so, as in this instance, when they are given to men who have risked their lives for the relief and succor of others. To my mind such acts, the rescue of our fellow-man from the perils of flood and fire, often undertaken at the imminent risk of life on the part of the rescuers, are fuller of true courage and moral grandeur than all the achievements on all the battle-fields the world has ever seen.

In concluding, Mr. Chilton congratulated the recipients of the beautiful testimonials presented to them by the government of the United States.

Reeve Johnston then presented the medals to those of the recipients who were present amid loud and prolonged applause from the spectators. Owing to the unavoidable absence of Tom Finn and John McLean, their medals could not be presented on the occasion, and were forwarded privately. Following is a copy of the official communication from the U. S. Government, accompanying the medals:

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
WASHINGTON, D. C., Feb. 2, 1888.

Mr. Fred W. Johnston, Reeve, Goderich, Ont. Canada.

SIR—Herewith are transmitted this day, by Adams' Express, one gold life-saving medal and six silver ones, which have been awarded Captain William Babb, Thomas Finn, Daniel McIvor, Neil McIvor, Malcolm McDonald, John McDonald, and John McLean, respectively, under authority of section 7, of the act of June 20, 1874, and section 9 of the act of May 4, 1882, for heroism in rescuing the crew of the American schooner, A. C. Maxwell, December 9, 1885.

I will thank you to cause the medals to be delivered to the above named persons, with the accompanying letters, taking their receipt for the former, which you will please forward to this department.

These medals are sent to you upon the recommendation and request of Mr. A. A. Pomeroy, of the MARINE RECORD, who forwarded the application and evidence in the case.

Respectfully yours,
J. S. MENYARD, Assistant Secretary.

Captain Babb's letter is as follows:

TREASURY DEPARTMENT,
WASHINGTON, D. C., Feb. 2, 1888.

Captain Wm. Babb, Goderich. Ont., Canada

SIR—I have the honor to transmit herewith a gold life-saving medal, which has been awarded you under authority of section 7 of the act of June 20, 1874, and section 9 of the act of May 4, 1882, for heroic service in conducting the rescue of the crew of the American schooner A. C. Maxwell, December 9, 1885.

Respectfully yours,
G. S. FAIRCHILD, Secretary.

The proceedings terminated with three cheers for the Queen, three for the American Government and three cheers and a "tiger" for the life-saving crew of Goderich.

LOW WATER.

The water level in the lakes continues to fall and people concerned in navigation are beginning to feel serious alarm. The Sarnia Canadian of this week says the water fell six inches in the St. Clair river last week, and the fall was common to the whole lake system. At Sault St. Marie the water is very low and boats drawing over thirteen and a half foot will not be able to get through when navigation opens, which means that boats will not be able to carry anywhere near their maximum capacity next season and that all classes of freights will be higher than usual. The cause of this remarkable state of affairs is a mystery. Whether some immense subterranean outlet has suddenly been afforded for the vast body of water or whether the tributary streams have been affected by drouth is a matter upon which scientific men are not agreed. The opening of navigation will be looked forward to with interest.

Captain Paul Boyton, recently paddled out into the lake at Chicago, in his rubber suit, for a little exercise. An ice flow carried him many miles out and he was wedged in from 7 o'clock in the morning until midnight, during which time he was without food or drink, and the chill of the icy waters had driven him to hard work to keep up the ciaculation so that he would not perish. At midnight, when he was rescued at the crib, his vitality was almost gone. Stimulants were applied, and he was put to bed.

HEROISM OF TWO WOMEN AT A LIGHTHOUSE.

Lieutenant Rogers, chief of the eleventh United States life-saving district, is in receipt of the following special report from Captain N. Robins, of Grand Haven, Mich., which was transmitted by Keeper Henry Finch, of the life saving station at Manistee, Mich. Lieutenant Rogers says it is one of the most extraordinary episodes recorded in the annals of the service, and the conspicuous heroism and bravery by which it is marked is entitled, he says, to special recognition:

Two ladies were visiting at the lighthouse keeper's dwelling at Manistee, March 19 last. Captain Roberts, the lighthouse keeper, saw a gale was rising, at 4 o'clock in the afternoon, and started to take the ladies across the river to their home. Mrs Johnson, one of the ladies, got down off the pier into the small skiff, and as Miss Fagin, her companion, went to get in she struck on the side of the boat and capsized it, throwing them both into the water. Captain Roberts, who has but one arm, saved himself by hanging on to the pier. The skiff turned bottom up, the two women hanging on to the half-inch keel with their fingers. A bowline was made by Keeper Finch and thrown over Miss Fagin's head, and she was pulled to the pier. Keeper Finch continues: "I got down on the pier, got the line under her arms, and tried to pull her up on to the pier. It was so icy we could not get her out. She was stiff and could not help herself. Mrs. Roberts came out of the lighthouse and helped and we landed Miss Fagin on the top of the pier. The ice was about fifteen feet high over the pier, and two or three feet thick all around it. Mrs. Johnson hung to the boat, and the wind, which had increased to over twenty miles an hour, with a five-mile current, had taken her near the end of the pier, about a quarter of a mile from the place where the boat capsized. Captain Roberts and I got into a skiff and started after Mrs. Johnson. We came up to her at the end of the pier, but she was fast to the boat. After difficulty we finally got her into the skiff, but the wind was blowing so hard I couldn't pull up to the station, and was drifting out to the lake. Mrs. Finch grabbed the surf boat rope, ran down the icy piers with Mrs. Hamilton, a neighbor, and threw the end of the rope to me. I make it fast to the skiff and they towed us to the station. Without the help of Mrs. Roberts we could not have got Miss Fagin on the pier, and if Mrs. Hamilton and Mrs. Finch had not thrown me the line, Mrs. Johnson, Captain Roberts, and myself would have been drowned, as it was impossible for us to get up the icy piers."

Lieutenant Rogers says it is probable the department will make some special recognition of the bravery exhibited by the women who aided in the rescue.

ABOUT THE COMPASS.

CHELSEA, MASS., March 26.

To the Editor of the Marine Record:

I have read with interest letters in your paper on variations of the compass, and how to find them. I would say that our captains need give themselves no trouble about how to find the variation, as it is marked on all government charts, and can be found by inspecting them, and Captain Scott, in his "Coast Pilot," gives a little chart with the lines of variation marked on it, which is quite near enough for practical purposes. Now, variation is found by amplitudes or azimuths of the sun. The former is quite simple, but the latter requires a good knowledge of nautical astronomy, and an accurate compass for either; otherwise, one would have the variation and the compass error combined, or one plus the other. To find the error of the compass by either of the above rules, one would require to know the variation at the place where the observation was taken and the difference between it and the variation shown by the compass would be the error. If the compass was true the observation would give the variation at that place. But as there are but few boats with true compasses and the errors vary on nearly every course, it would take a good part of the season for a captain to find the error of his compass on all courses.

A quicker and better way would be to take the ship to some clear place, free from iron, take the true magnetic bearing of some distant object, and swing the ship on all points of the compass, noting the bearings on each point, thus making a deviation card. Or by compensating for the local attraction which, at the present time, is universally practiced on all ocean ships where compasses deviate.

I find the greatest variation on the equator, brought down to the year 1882, to be 21° west, and in 60° north latitude variation 51° 30′ west; 60° south latitude, variation 51° west. The greatest variation found in north latitude is 80° west, and in south latitude 58° west. I send you magnetic variation chart for the year 1882. You will find the lines of variation are very irregular, and would indicate two magnetic poles in north latitude and two or more in south

J. S.

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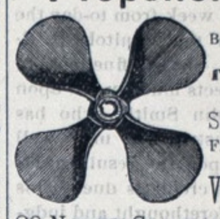

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BARGE COL. BRACKET—She carries 260M feet of lumber, 420 tons of coal. Had $900 worth of repairs last season. Fit out good. Price $1,600. Mention this paper. ED. J. KENDALL, Port Huron.

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STEAMBARGE MONITOR—Length of hull 96 feet, breadth of beam 23 feet, depth of hold 7 feet 6 inches. Boiler 5 feet by 12 feet. Engine 14 by 16 inches. Cheap for cash.

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SCHOONER JOHN M. HUTCHINSON—Built by Quayle & Martin. Capacity, 1 900 to 2.000 tons. Inquire of FRANK PEREW, Buffalo, N. Y.

HARBOR TUG FOR SALE.

THE TUG MYRTLE, of Sandusky, Ohio, for sale cheap. Is in first-class condition. For particulars write to FRED GROCH, Sandusky, O.

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PROPELLER TOLEDO—About 700 tons capacity. Apply to EBER WARD, 51 Griswold Street, Detroit, Mich.

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THE TUG CAL DAVIS—Over all 65 feet, beam 14 feet, depth of hold 6½ feet, draws 7 feet of water. Has boiler allowed 90 pounds of steam, outboard shaft (no engine.) All in good condition. Price, $1,200. For further information address HENRY LAY & CO., Sandusky, Ohio.

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TUG ANNIE ROBERTSON—Length 51 feet, beam 13 feet 6 inches, depth 6 feet, engine 14 inches square, and new steel boiler 1st August, allowed 125 lbs of steam. For further information enquire of LAY BROS., Sandusky, Ohio.

FOR SALE, the passenger steamer M. E MINTER, 13 tons net, 60 feet long over all, 18¼ feet beam, 4 feet depth of hold. Engine 10x12, Scotch type boiler 4½x8. She is fully equipped for the passenger business. Terms, $2,000. Address, CAPTAIN RICHARD CONNELL, Muskegon, Mich.

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SCHOONER VERNIE M. BLAKE—For sale cheap. Capacity 60 tons; dimensions, keel 55 feet, beam 19 feet 6 inches, depth of hold 5 feet 6 inches. Address 22 Territt street, Cleveland, O.

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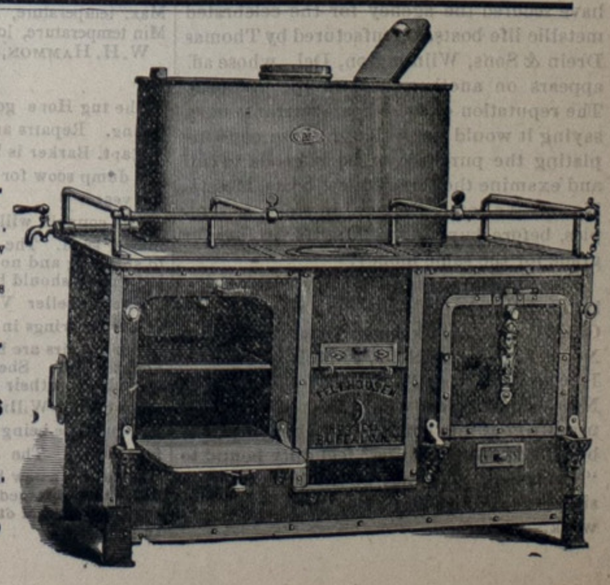

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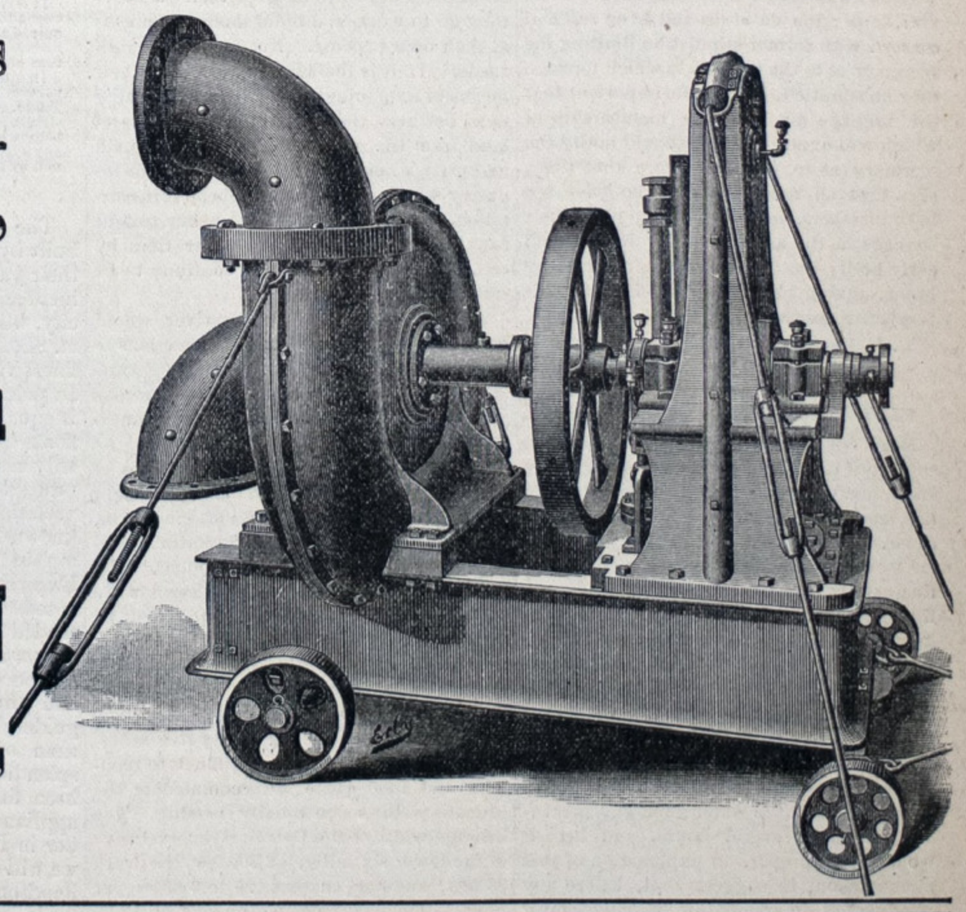

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Marine Record.

Published Every Thursday at 144 Superior Street, [Leader Building] Cleveland, O.

A. A. POMEROY, EDITOR AND PROP

BRANCH OFFICE:
252 South Water Street, Chicago, Illinois,
THOMAS WILLIAMS, Associate Editor.

TERMS OF SUBSCRIPTION:

One year, postage paid.....$2.00
Six months, postage paid..... 1.00
Invariably in advance.

THE MARINE RECORD can be found for sale by the following news dealers:

CLEVELAND, O.—G. F. Bowman, corner of Pearl and Detroit Streets.

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Subscribers and others are respectfully invited to use the columns of the MARINE RECORD for the discussion of pertinent topics.

Entered at the Post Office at Cleveland as second-class mail matter.

CLEVELAND, O., THURSDAY, APRIL 5.

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ORGANIZED IN 1880.

[Membership, 1887]

Sixty-five steamers aggregating.....67,865 tons.
Ninety-five sail and consort, aggregating.60,089 tons.

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MARINE RECORD—OFFICIAL PAPER.

NOTICE TO VESSEL OWNERS.

By resolution of Cleveland Vessel Owners' Association, February 2, 1888, the assessment on the tonnage for 1888, custom house register, was levied the same as for 1887, viz: 3c per ton on *steam* and 4c on *sail* and *consort*, with former stipulation limiting the secretary as to the time up to which tonnage may be admitted. It is quite important that the tonnage for 1887 the membership of which will expire April 1, should notify the secretary as to renewal before that time; also, that all vessel owners who have not been members, but who desire to place their tonnage in the association for 1888, should early notify the secretary, personally or by letter, giving names of vessels and their respective tonnage. Address,

B. L. PENNINGTON, Sec'y and Treas.,
110 and 112 Water St., Cleveland, O.

FLUCTUATIONS IN THE LAKES.

Much has been written and said upon the subject of the fluctuation of the water of the lakes, many observations have been taken, and many theories advanced to explain their cause. Mr. Guthrie, of Chicago says. There are three separate, distinct, and well defined fluctuations, one of which—viz.; the season fluctuation—has heretofore, so far as my knowledge extends, entirely escaped observation. The change occasioned by the wind, or rather, perhaps more correctly speaking, change of barometer, being so well understood requires little explanation. For example, a sudden rise at Mackinaw foretells a south wind, a sudden rise at Chicago, wind from the north, the water generally preceding the wind several hours, and here it would seem proper, in explanation of that phenomenon, to suggest that, before any wind be felt, an area of low barometer must exist, and should it be found to be in the vicinity of Chicago the water would rise to a height corresponding to the reduced pressure and continue to rise until the wind had reached its maximum velocity.

The season changes, before referred to, occurring as they do with the regularity of the seasons, are caused by the changes from winter to summer and summer to winter, the frosts of winter holding the snow and ice in reserve to augment the rainfall of spring, until the month of May, ordinarily, and the lakes begin to rise and continue to rise uutil about the close of August, when they began to recede and continue to do so until the minimum stage is reached. The periodical changes occurring at irregular intervals, as well as being irregular in degree, have received much more attention than the others, and the conclusions reached have differed very widely. The following is one of the many erroneous ones.

"The rise and fall of the great lakes is something scientific men will some day have to investigate and find out about. Old settlers on Grand Traverse Bay say that the water slowly rises for seven years and then recedes for the same length of time."

Fortunately for us now we have two sets of records of date which will enable us to reach correct conclusions—viz.; the records of the engineer's office showing the fluctuations of the lake to the most minute detail since 1855, and the United States signal service giving the rainfall, temperature and wind since 1871—to both of which we are indebted for the information upon which these conclusions are based. We find, by referring to the stage of water in Lake Michigan that the year 1876 was one of the high water periods—three to four feet above datum or low water stage of 1879, and the highest but two from 1855 to 1883 inclusive. Referring to the signal—service records we find the rainfall excessive around all the stations of Lakes Superior, Huron and Michigan, except Duluth, and that barely below mean (the water of Superior flowing into and affecting Lake Michigan.) We will now take 1872, when the stage of water was the lowest of the whole series, and find the rainfall below mean at every station. Looking over the diagram showing the stage of water during 1879, as compared with the four succeeding years, we find it very low, and the rainfall of that year correspondingly light, while from 1880 to 1883 inclusive the rainfall was excessive and the water correspondingly high. There is no record showing that the low stage of 1846 has since been reached. On the other hand three feet nine inches above was reached in 1859 and 1860 and about three feet within the last year or two.

A SO-CALLED WINTER BRIDGE.

What is a "winter bridge?" A winter bridge is a pretext for a railroad company to obstruct navigation in the Detroit river. This scheme was brought before the Cleveland board of trade on Wednesday by Hon. George H. Ely, who is always alert where marine and commercial interests of the lakes are concerned. Several efforts have been made to obtain authority to build a railroad bridge across Detroit river, a waterway that must accommodate the entire traffic of the lakes. When any of our great lines of steamboats desire to increase their facilities they go to work and build more steamboats at their own expense. Not so with the railroads. If it is their desire to add to their means of extending their lines and reaching new business they either obtain grants of land from the government or try to obtain authority whereby they may defeat some industry which is necessary to cheap transportation. It is well known that heavy freight can be carried cheaper by water than by rail, and it will, therefore, continue to be transported by water.

A bridge across the Detroit river would be one of the most complete obstructions to commerce that has ever met our lake marine. The chain of the northern lakes stretches westward twelve hundred miles, and southward by Lake Michigan to Chicago. As Hon. G. H. Ely says, the shore lines of the lakes wash the northern borders of eight of the most populous states of the Union, their northern arm, Lake Superior, penetrating to the heart of the continent. The one connecting link with the seaboard is the Detroit river, and there is no equivalent or alternative channel. To this point converges and through this channel moves the vast exchanges by water between the east and west, and so they will do forever. The length of this channel is eighty-five miles. At best the Detroit river is difficult to navigate and inadequate to accommodate the numerous tows continually passing. The average width of the Detroit river, exclusive of the lower six miles, is 2,800 feet, the depth 36 feet, and the current 2½ to 3 miles per hour. The channels on each side of Belle Isle are about 2,000 feet wide. Nearly all the passages are made between Belle Isle and the Canadian shore. At this point, across the lower end of Belle Isle, where the width between banks is only 2,000 feet, is one of the proposed sites for the bridge.

"Here, then, where night and day, and under all weather conditions, except fog, our forty-two hundred vessels, steam and sail, and hundreds of timber and lumber rafts, pass up and down annually. Commence the construction of a bridge, put in coffer dams, anchor scows loaded with material, and the passage of our vessels is imperiled for two years, while slowly is brought to the surface and sixty feet above, six enormous piers of masonry necessary to support a double track bridge. In case a bridge is put across this navigable waterway can a passage be safely made by day? Can a passage be safely made by night? No. The momentum of a heavily laden vessel is great, the current runs strong, and our vessels would always, in passing, be in momentary danger. This is a subject that requires the most careful study, and must be guarded. The promoters of the scheme should give the marine interest credit for knowing as much as they do themselves, and we say that the designation "a winter bridge," is but a pretext for an all year bridge.

At the meeting the following resolutions, drafted by Hon. G. H. Ely, were unanimously adopted:

To the Honorable, the Senators and Representatives of the Congress of the United States:—

The Cleveland Board of Trade hereby respectfully represents that an application has been made to the Dominion Government for a charter to construct a bridge over the Detroit River, at or near the city of Detroit. It is announced that concurrently with this, a like franchise is to be obtained, if possible, from your honorable body.

Against any legislative action, permitting the bridging of that channel of the Great Lakes, this Board of Trade, representing very large and important producing and transporting interests, begs leave most respectfully and most solemnly to protest and remonstrate.

Through that channel passes the natural and the manufactured products of the whole country bordering upon and tributary to the great lake system. The commerce of this natural water-way, which stretches from the Atlantic seaboard to the heart of the continent, concentrates here—there is no alternative channel. The magnitude of this lake commerce has already outrun all prophecy. The tonnage passing here, in seven months, is now greater than the annual total foreign commerce of the United States.

Obstruction here by a bridge—any kind of a bridge—must be opposed by every dictate of safety, and of justice to the millions of our people, the products of whose toil and enterprise are interchanged on this water-way.

The government is now spending millions of money annually to improve and increase the capacity of this waterway. Can it deliberately abandon, and, in fact, reverse this policy at the request and in the interest of a few hundred or thousand individuals associated exclusively for personal and corporate ends?

Here—at the straits of Detroit—of all other places on this continent, corporate privileges should wait upon the indefeasible right of the people to the unobstructed use of navigable waters. Such right the Government should never permit to be assailed or imperiled by concessions to either individuals or to corporations.

Twice during the last fifteen years Congress has emphatically, and upon high grounds of justice and public policy, refused to permit the bridging of this national water-way. The application now is for what is called a "Winter bridge." No such plan, however, would obviate the inevitable danger and obstruction that would be caused by a line of piers across the straits. The so called winter bridge may involve wider openings, but under the existing conditions of navigation it would be impossible to limit vessel movements to any such openings, either with safety to the vessel or to the bridge itself. The incessant passage, up and down, of single vessels and tows, through every moment of the day and night, under all the varying conditions of wind, current, and fog, requires the use of the entire width of the river.

Any contraction of the space between the banks would result in serious, permanent injury to the commerce of the lakes. That commerce cannot now, even, be forced through bridge openings. The enormous annual increase of it forbids the suggestion of railway bridge obstruction in any form; nor would the refusal of this concession to these applicants deprive them of any right or privilege to which they could be justly entitled.

It is a fact that cannot be questioned, that whatever additional railway transit facilities are required at this point, can be secured either by an increase of ferriage equipment or by the construction of a tunnel.

In view, therefore, of these and many other important facts and considerations, this Board of Trade, respectfully, and most earnestly remonstrates against any action by your honorable body which shall operate to convey the right to any individual or corporation to bridge this channel, by the structure proposed, or by any other.

THE PHILIP MINCH.

The new steamship Philip Minch, built by Messrs. Wm. Radcliffe & Sons at their yard for Mr. Philip Minch, a prominent and well known ship owner of this city, will be launched at three o'clock p. m. Saturday, April 7. This is one of the finest vessels Mr. Radcliff has ever built. In points of model and construction, she is equal if not superior to any thing that floats the lakes. Mr. Radcliff has not only realized in this master piece of his profession, but he has exceeded the expectations of those who for years have known him as one who has reached the top in his profession of shipbuilding. Everything that could be done to ensure speed, strength and beauty has been attended to in the minutest detail, and he may well be proud of this monumental evidence of what ingenuity can desire, and human hands accomplish when guided by reason, judgement and a life time of experience. This grand and splendid specimen of human skill, has been fitted out with the most approved appliances for the saving of time and labor in her management, some of which we will detail as we go on. She is a very handsome modeled boat for the freight trade, and although she is not built for speed, her lines are drawn so as not to diminish her carrying capacity and still make her fast for a freighter. She is 276 feet keel, 294 feet over-all, 40 feet beam and 24 feet depth of hold, will carry apout 2,400 tons: She has three steel arches on each side, two outside 12x¾ inch, and one inside 16x¾ inch, is diagonally strapped with 5x½ inch steel and built of the best material that could be procured. She has a Williamson steam steerer, Providence steam capstan and a Providence steam windlass, fore and aft, manufactured by the American Ship Windlass Co., Providence R. I., also a steam hoisting machine. Her machinery consists of a triple expansion engine, of the most approved style, 19, 30 and 52x40 inches.

Two Scotch type boilers each 10 feet 6 inches diameter, and 13 feet long, with steam domes, and allowed 150 pounds pressure. Her wheel is 12 feet diameter, 15 feet pitch. This machinery is manufactured by the Cleveland Ship building Co, and is the latest and most improved design. Messrs Grover and Sons have the work of fitting out this splendid craft, and, in snch able hands, it is unnecessary to add anything for them and their work is well known where ships are built, or ships are fitted out.

Captan Albert Myer will have command, Jno. Anderson will be chief-mate. and Wm. Seaman will be chief engineer. They have a grand boat and we do not hesitate to say that such a boat, with such officers cannot but fulfil her destiny. May she roam long over the bosom of the great lakes prove to be all she is expected to be and pay 40 per cent in 1888.

THE LACKAWANNA.

The first production of the new firm, the Cleveland Ship Building Co., is the splendid steel steamship Lackawanna built by them for the Lackawanna Transportation Co. She is built entirely of steel and is a phenomon in point of beauty and construction, 265 feet keel, 287 feet over all, 38 feet beam, 25 feet depth of hold with a capacity of about 2200 tons. She is built entirely of steel, upper decks planked with wood and lower decks steel surface. She has seven hatches, and four gangways so arranged, as to come between the coal shutes, enabling her to take in coal in her lower hold and at the same time take off merchandise from between decks. Her after hatch is a coaling hatch so arranged as to shute in the fuel above the same, as the cargo. Six of the hatches are filled out with the C. S. B. Co. patent hoisting apparatus three of the hatches have hand winches for loading and unloading flour one hatch forward of the texas and pilot house and right forward of that is a topgallant forecastle deck of steel which are the crews quarter. She has two spars and sails so arranged as to brail into gaff and spar and use the boom as a hoisting derrick, with another boom forward on each spar to use as hoisting derrick for other hatches. The engine room is between decks and is cased with steel, so as to load cargo between deck clear att to the stern post. The engines are triple expansion 19 inches high pressure 30, inch intermediate and 52 inch low pressure with 40 inch stroke, her two boilers are of the Scotch type placed in the hold, athwart ships with fire hold between them. They are 11 feet 6 inches diameter and 11 feet long with 150 pounds pressure and also has the Cleveland Shipbuilding Co., patent ash hoist. She has a Williamson Bros. patent steam steering gear from Williamson Bros., Philadelphia. A Providence steam windlass from the American Ship Windlass Co., Providence R. I.

The Cleveland Ship Building Co. are fitting her out ready for sea in every particular and every thing possible to facilitate the saving of laber, time and expense in handling, loading and unloading, has been provided regardless of expense and she stands to-day a perfect ship in every sense of the word, and gives evidence that the newplant can produce work which is excelled by none. This noble craft will find hea way into the element where she is to work out her destiny either on Saturday of this week or Monday or Tuesday of next.

The company may be proud of this specimen of their handiwork and skill, as competent judges have pronounced her to be one of the best ship of the kind ever put afloat on the lakes. The total cost of this magnificent steamship will be $195,000.

OIL ON TROUBLED WATERS.

To the Editor of the Marine Record.

The efficacy of using oil in a surf was first brought to my notice when I was a junior officer in a vessel at Port Elizabeth, Cape of Good Hope. Vessels having to lie in an open roadstead, all communication with the shore was carried on by means of lighters and whale boats, and I found a regular system in use there of having an oil-bag towing so as to effect a landing, this being done with comparative ease and comfort. If the oil had not been used each person would have landed thoroughly drenched.

Shortly after this experience I was an officer on a ship carrying crude petroleum oil from New York across the Atlantic, and in running before a westerly gale, with a heavy sea, I had frequently noticed, when the watch were at the pumps, a smooth clear wake, caused by the oil leaking from the barrels and being pumped up with the bilge water, and flowing off through the scuppers. I was not long in taking advantage of this, and believe that I kept many a ton of water off the decks by having the watch along to the pumps in the lulls. J. S.

THE ST. IGNACE.

The Detroit Free Press says: The steamer St. Ignace is something like a prize fighter. She depends for success not on her beauty, but on her strength and staying qualities, her ability to give and take hard knocks. She has probably fewer points of beauty about her than the ugliest propeller on the lakes. Her cabin is amidships running fore and aft. It is thin at the ends, bulging in the middle, and the upper story projects over the lower like an old block house, used for fighting Indians. She has one railway track on each side of the cabin. The tracks are not covered. There is a large bridge forward, on which the pilot house is situated, and her two smokestacks are short, and placed fore and aft, like those of an ocean ship.

The fight with ice at the Straits of Mackinac has been going on for some years, and, up to the present time, the ice has had a little the advantage. The steamer Algomah failed to keep a passage open, owing to her inability to cut through the windrows of ice. These windrows present a very serious obstruction to winter navigation. They are formed by drifting ice, which is broken and piled up by storms. In some cases these masses of ice are heaped up until they ground in eighteen or twenty feet of water near the shore, and there become anchored for the season, the succeeding storms piling more lumps on, until a range of small mountains is formed. The Algomah always found it necessary to fight shy of the windrows, and the special duty of the St. Ignace is to bore through them. To fit her for this encounter she is furnished with a heavy propeller at the bow. Of course she also has the usual stern propeller, driven by a powerful engine. The forward wheel is turned by a compound engine of 1,000 horse-power, and the one at the stern by one of 2,000 horse-power. When a windrow stretches itself across her path her bow will be run into it and the forward wheel be set in motion. The ice will thus be loosened and swept aft by the current. Piece by piece the foundation of the obstruction will be torn away, until it collapses and the steamer passes through the opening. Her builders confidently expect that she will be able to bore her way through anything in the shape of ice that can be found at the straits. In summer the forward propeller will be removed, it being intended only for work in the ice. The big ice-crusher lay at the dock in front of the Detroit drydock, gaily decked out with flags, while all the prominent vesselmen of the city were making the perilous ascent of the steep long plank, which led to the deck of the vessel. The cause of all this was the fact that the huge leviathan was to make her first trip.

The vessel demonstrated her power, before the guests expected that she would. Captain Boynton started the engine very slowly, to let them work while the vessel lay at the dock, so that they would move smoothly and readily. The St. Ignace started back, and slowly the strain came onto the four six-inch hawsers that held her bow, but to the surprise of everyone present, instead of holding the ship, they snapped as if made of cord, and there was no more working of the engines at the dock.

The trial trip was in every way successful. Captain Boynton stood in the pilot house with both sets of machinery under his control, two sets of signal bells connecting with the engine rooms.

New features of the pilot house are two indicators, in the shape of half circles, which show just what each engine is doing. For instance, if the forward engine is not working, a small hand points downward. When the engine is started ahead, the hand immediately points to the right, and when backing to the left, and the captain thus knows whether his signal has been promptly obeyed or not.

The St. Ignace immediately demonstrated that she handled as easily as a small yacht, for one half spoke of the steam steering wheel would swerve her, and in the Canadian channel, off Belle Isle, she turned completely around in twice her length.

The machinery, as is always the case when it is new, worked hard, and at times even pounded, hence the vessel was not pushed. The steam carried on the trip was only fifty pounds, while she is allowed 150, and her screws made only thirty revolutions per minute.

The vessel draws, light, 14 feet 7 inches. The St. Ignace is 235 feet long, 52 feet beam and 25 feet in depth. The engine which propels her stern wheel is a 2,000 horse power compound, the cylinders being 28½, and 53 inches in diameter, respectively, and having a 48-inch stroke.

The engine which drives the forward wheel is a 1,000 horse power, compound, the cylinders being 26 and 48 inches, with a

40-inch stroke. There are three double-ended boilers, 18 feet long by 11 feet 6 inches in diameter. They are placed side by side, and have the power of six ordinary boilers. The top of the pilot house is furnished with a powerful electric search light, which may be regulated from inside the pilot house by the captain.

The cabin is plainly furnished, although the captain's room, with its hand-polished furniture and velvet carpet, is a gem.

Captain L. R. Boynton will command the St. Ignace, with Sidney Miller as chief mate and Richard Walsh as chief engineer.

LAKE CARRIERS' ASSOCIATION

TO CONSIDER AND TAKE ACTION UPON ALL GENERAL QUESTIONS RELATING TO THE NAVIGATION AND CARRYING BUSINESS OF THE GREAT LAKES AND THE WATERS TRIBUTARY THERETO, WITH THE INTENT TO IMPROVE THE CHARACTER OF THE SERVICE RENDERED TO THE PUBLIC, TO PROTECT THE COMMON INTEREST OF LAKE CARRIERS, AND PROMOTE THEIR GENERAL WELFARE.

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MARINE RECORD—OFFICIAL PAPER.

LIGHT HOUSES AND FOG SIGNALS.

Mr. J. T. Whiting, who is still at Washington, writes to the Lake Carriers' Association as follows:—

"Mr. Chipman's House Bill 7085 having been referred to the committee on commerce, Mr. Clardy of that committee reported bill 8751 as a substitute therefor. The following is the text of the substitute:—

A bill providing for the erection of sundry light-houses and fog-signals in Lake Superior, Lakes Huron, Erie and Michigan, and range-lights in Lake Saint Clair and Detroit river.

Be it enacted by the senate and house of representatives of the United States of America in congress assembled, that a fog-signal be established at Beaver Island, Lake Michigan, at a cost not to exceed five thousand five hundred dollars.

That a fog-signal be established at Mackinac point, straits of Mackinac, at a cost not to exceed five thousand five hundred dollars.

That a light-house be established at White Shoals, or at Simmons reef, Lake Michigan, as the light-house board may determine, at a cost not to exceed $60,000.

That a fog-signal be established at Twin River Point, Lake Michigan, at a cost not exceeding $5,500.

That a fog-whistle be established on the breakwater at Chicago, Illinois, at a cost not exceeding $5,200,

That range-lights be established in the channel of Detroit river, Michigan, between Fighting Island and Lime Kiln Crossing, at a cost not exceeding $7,000.

That a fog-whistle be established on the breakwater at Cleveland, Ohio, at a cost not exceeding $5,200.

That a fog-signal be established at La Pointe, Point Chequamegon, entrance to Ashland Harbor, Lake Superior, at a cost not exceeding $5,500.

That a fog-signal be established at Point Iroquois, Lake Superior, at a cost not exceeding $5,500.

That a fog-signal be established at Cheboygan Point Light station, Lake Huron, at a cost not exceeding $5,500.

That a fog-signal be established at Presque Isle, Lake Huron, at a cost not exceeding $5,500.

That range-lights and stakes be established in Lake Saint Clair from Grosse Point to the entrance of Detroit river, at a cost not to exceed $3,000.

That range-lights be established at Russel Island to Saint Clair Flats Canal, Lake Saint Clair, at a cost not exceeding $1,500.

That a fog-whistle be established at Two Harbors, Lake Superior, at a cost not exceeding $5,500.

That a light be established at Devil's Island, Apostle Group, Lake Superior, at a cost not exceeding $15,000.

That range-lights be established at Duluth Harbor, at a cost not to exceed $3,284.12.

"Buffalo breakwater light-house and fog-signal item will have attention as soon as the requisite report and estimate have been received."

The house river and harbor committee completed their bill, amounting to about $19,500,000 on March 27, and though not yet reported, it is understood that it proposes to give $1,000,000 for the Sault canal, new lock, and $500,000 for the Hay Lake channel, also $50,000 for St. Clair Flats canal, a portion if not all of which, the secretary, of war may, at his discretion, apply to improving the channel from Grosse Pointe, Lake St. Clair, to entrance of the Detroit river. It also provides for the survey and estimates for the further improvement of the last named channel.

The Only Shirt Factory in the City

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Don't forget to call on KOHN & CO., 213 Detroit St., near corner Pearl.

[*Around the Lakes Continued from 1st Page.*]

TOLEDO.

The following is a list of the officers who will command the fleet of steam and sailing crafts rom Toledo this season: Schooner Anna P. Grover, Homer Durand; schooner P. B. Lock, George Durand; schooner W. H. Rounds, T. Rooney; schooner R. Haliaran, D. L. Boyce; schooner Montana, Ben Calboun; schooner F. C. Leighton, Wm. J. Harlom; schooner Arthur, M. J. Enright; schooner Montgomery, M. Christie; schooner St. Peter, F. Abair; schooner C B. Benson, John Duff; schooner Maumee Valley, E. Winchester; propeller Germania, Capt. Peltier; barge M. Butman, H. Balfour; barge Wm. Case, Wm. Potter; barge H. C. Sprague, H. Normanton; barge Josephine, George Rogers; steamer Chief Justice Waite, Ed McNalley; steamer Saginaw, H. Tyrrie; steamer Evening Star, L. Stoddard; tugs Swansea, Fannie Tuthill, John Robertson; tug C. W. Moore, George Sage; tug May French, Thomas Cassey; tug Maggie Ashton, L. Wilkinson; tug Pathfinder, H. Arundel; tug Joseph S. Spinney, John Dunkeith; tug L. Birckhead, Frank Hannan.

Sullivan & Hubbard have made the following appointments for their fleet for the coming season: Propeller Monnahasset, Capt. Al Fitts; engineer, Fred Trauftler; schooner Massasoit, Capt. John Grady; schooner Penokee, Capt. Joseph Skeldon; schooner John Schuette, Capt James Woods; tug A. Andrews, Jr., Capt. Jas. McKinley; engineer, R. M. Hall; tug M. A. Green, Capt. Charles H. Hubbard; engineer, E. Passena; tug Syracuse, Captain Ed Williams; engineer, William England; tug William E. Rooney, Capt. William J. Leaver.

The scow Garibaldi has received new deck frames and deck, gunwale, center board box and center board.

The steamer Remora has been hauled out and lengthened 22 feet and had her cabins built up, to put her in good shape for the passenger business on Sault ste Marie river.

The tug Parker is hauled out ready to be rebuilt. WILLIAMS.

GREEN BAY.

Captain John V. Tuttle, acting for the underwriters, has sold the schooner Riverside, which lies stranded on Spider Island, at the Death's Door, entrance to Green Bay, to Captain P. F. Thrall, of Green Bay City, for $2,000. Captain Thrall is the owner of a tug and scow, which, with a steam pump, jack screws and other wrecking outfit engaged from Messrs. Hagen & English, of Green Bay, will enable him to release the Riverside without assistance from outside parties. It is his intention to haul the schooner out at Green Bay, on the ways now occupied by the schooner Ellen Williams, and make all needed repairs. The sale of the Riverside leaves only the schooner Blazing Star, lying upon Fisherman's Shoal, in Captain Tuttle's hands, and for her he has been offered $750. This includes hull, lumber cargo and outfit.

ERIE.

Anchor Line captains who live in Erie have been notified of their appointments as follows: Captain Mike Riley, from the Philadelphia to the Susquehanna; Captain C. H. Wilson, Alaska; Captain Sisson, Lehigh; Captain Corcoran, Lycoming; Captain Pat Riley, Conestoga; Captain Christie, to the Delaware, with Captain J. M. McCarty, of the Sherwood, as mate. The remainder of the appointments are said to be the same as last year, with the exception of the promotion of one of the freight captains to the Philadelphia. The propeller Farwell is being fitted out, also the schooner F. W. Gifford, which has had her upper works rebuilt.

KINGSTON.

D. Graham & Co., will establish a line of freight steamers between Chicago and Montreal on the opening of navigation.

The ice is two feet thick in Welland harbor, just double that of one year ago. This does not look much like an early opening of navigation.

Col. Twitchell, the American consul at Kingston, has just been notified that Canadian sailors who ship on American vessels are entitled to all the privileges accorded American sailors, and are regarded as American citizens. A Canadian sailor who leaves an American vessel at an American or foreign port is recognized as an American while he remains on shore, but does not engage in any other business and till he again reships on an American vessel. When he ships on a Canadian craft, then he forfeits the privileges referred to.

BUFFALO.

Special to the Marine Record.

Monday evening Mr. David Vance of Milwaukee, who represents the Commercial Union's marine interests on the lakes said there was no hull meeting called, and he was not here on any such business. He knew of no other agents bound in this direction, and he was not apprised of any attempt to come to an understanding in regard to hull insurance. He was inclined to think there was not going to be any pool this year, disastrous as running wild was likely to be. One difficulty was the terribly expensive way in which this business was done, especially in general average adjustment and wrecking charges. No money was made last year, and it was thought impossible to raise the rates for this year, in view of the bad outlook for the lake business. He was thinking of not insuring the vessels he was interested in, and certainly a raise in rates would cause a stampede. Mr. Vance was not positive as to the effect of the present state of things on the rates of coal freight, though his argument was in favor of a good rate. There was next to no coal at Chicago, Milwaukee, or Duluth. He had looked in the leading yards at those ports and there was nothing but sweepings. These ports would have taken 400,000 tons more hard coal from Buffalo last year if it could have been handled here. They took about that amount over the year before as it was. He believed that tonnage was not going to be plenty early in the season. There was actually nothing on Lake Michigan to hurry vessels into commission. Not a bit of ore and but a small amount of grain could be had yet, and it might be June before the ore men were through watching the tariff tinkers and getting rid of the over stock laid down last year. After that he hoped for better business. It was certain that a large amount of lumber was going to be needed. He believed many vessels would not fit out, even on the first of May.

Captain William Dulac of Mt. Clemens was here Monday looking after the propeller A. Weston, in which he has an interest. He is building a new propeller. She will run in the general trade, and is to be named the F. R. Buell, after a Milwaukee coal dealer, and will be launched at the opening of navigation.

The propeller Isaac May and barges Waubaushene and Muskoka will bring 20,000 000 feet of lumber from Serpent river, Georgian Bay, to Tonawanda. They will be managed by Mr. John L. Crosthwaite, instead of going up light this year they will carry up coal from Ohio ports.

The propeller E. S. Tice will tow the barges William Crosthwait and Oneonta in the lumber trade from Ashland, and Ontonagon to Buffalo and Chicago.

It is now stated that the cargo insurance rates talked up at the Buffalo meeting of general agents in March will be lived up to, though no regular agreement was made then.

The new Lehigh coal trestle at the Tifft farm will hardly be ready before June.

Quite a number of lake line managers and shippers are in New York attending the railroad trunk line meetings.

D. Y. Howe & Son, of Toledo, O., write to H. G. Trout as follows: Please make for us and shipped by freight one wheel the exact duplicate of No. 35, ship us for steamer Douglass, February 24th. This wheel is just what we want and we want another to have on hand in case any mishap might occur.

There were three grain charters made in Buffalo on Saturday. The propeller D. Ballentine and consorts Ironton and C. G. King were taken for wheat, Port Arthur to Buffalo, at 3½ cents. This makes in all nine grain charters, from that port, and will turn out fully 500,0000 bushels probably. It is stated that there is but little wheat now at Port Arthur. All of these last charters, and presumably some of the others, are made on wheat that is to come in from Manitoba somewhere.

There is no stir in coal or lumber yet. Brokers report vessel men firm in asking last year's opening coal rate, 75 cents to Chicago but there are no offers. The first charters last year were made March 26th. It is said that there is more lumber ready for shipment this spring than ever before and also that the demand for it is good. This ought to insure a good season if too many boats do not go into it. So far no charters have been made except on Bay City basis. If that rate opens at $2 there will be money in the traffic.

Vessel men are wondering why there are no apparent efforts to fix up a hull insurance pool. The season is about to open but there are no solicitors of hull business by any of the hull companies and the owners almost hope there will be no pool this year.

The vessel men here are growing somewhat anxious over the situation. No coal charters have been made, and each side is waiting for the other to give in. One broker says he was offered 70 cents to Chicago, but has refused it. Vessel men claim to be waiting for some movement in ore freights, but have lost all hope in that quarter. They are now looking for lumber, but about the only thing done is an offer of 30 cents over Bay City rates to Green Bay. They say they prefer to wait until the business shapes itself instead of going up and coming back light. The creek is now open, and vessels are moving to the docks for repairs.

In 1887 navigation at Buffalo opened April 17; the straits opened April 24; the Sault river opened May 3.

Townsend Davis, who returned from Chicago, says that no hull pool has yet been formed. There is still time enough to form one.

Captain G. W. Stoddard will not command the propeller Newburg this season. It is stated that he will go on one of the new steel boats of the Manitoba line.

Parker & Millen of Detroit have written to Brown & Co., vessel agents, that they have made no ore charters from Marquette at $1.67 or $1.70 and that they know of none having yet been made at any figures.

President O. T. Flint and Chairman Townsend Davis of the executive committee of the Inland Lloyds have arranged that Captains James Rardon and W. H. Rounds shall survey the propeller John Pridgeon at Chicago, their reccommendation to be final.

The propeller Northerner has been chartered for 1888 to the Delaware, Lackawanna & Western Transportation Co., and is being fitted out now. The Waverly and the Orange will sail next season with the Gilchrist fleet. Captain Klumph will command the John Breeden. Captain Buie will be master of the Nevada. Captain D. H. Kiah will command the Newburg.

The past month has been a very bad one for shipbuilding. There has not been a March in several years when so little work could be done outdoors on account of rain and snow. The Chemung, which was recently launched, will not be finished till some time in May. Work on the propeller Robert Mills is being crowded every pleasant day, but so much time has been lost that she will not be launched till April 15. The Jay Gould came out of the dock and the Calumet went in to receive inside arches. The Oceanica will take the place of the Gordon Campbell as soon as work is completed on the latter. The Scotia was taken out and the repairs on the Araxes and Weston are finished. A number of vessels will be placed in the docks as fast as room can be made for them. The steambarge W. M. Egan and the barge Brightie will be thoroughly recalked. The propellers Badger State, Arabia and Winslow and the barge Dan Rogers are to receive general repairs.

The coal freight situation appears to be of chief interest at this port just now. Brokers are actively at work at the task of bringing shippers up to their figure for the opening rate—75 cents to Chicago. They not only point out the fact that tonnage is going to be scarce after the first fleet is gone, but that the shippers who steps in and takes all the tonnage he can load up to the time navigation opens is going to make a big thing. If some shipper should happen to become a convert to that sort of argument there is going to be a sensation some day not far distant. No such move has been reported yet.

STURGEON BAY.

Special to the Marine Record.

Extensive repairs are being made on the tug George Nelson, of Leathem & Smith's fleet.

The ice on Green Bay is beginning to break up, and our local mariners predict the opening of navigation as imminent.

The schooner Pewaukee, owned by Leathem & Smith, of this port, has been converted into a steambarge during the past winter, the work being done at the Manitowoc shipyard.

The canal range light, at the head of Sturgeon Bay, which was taken out last fall by moving ice, will be replaced as soon as the weather permits.

The fleet of craft belonging to this port will be commanded as follows: Thos. N. Smith, Captain John Walker; Sam'l Neff; Captain C. B. Packard; Pewaukee, Captain Alstrom; tugs Jose Spalding, Captain Ed Stoaks; George Nelson, Captain Ed Cox; John Leathem, Captain Dave Ramage; W. C. Tilson, Captain Louis Legot; A. S. Piper, Captain John Culnan. The owners of the above named craft are getting their respective vessels in running order, and they will all be ready for business at the opening of navigation.

Recent advices, received from Washington by the Hon. E. S. Minor, informs him that the lighthouse board will make a change in the beacon light at the entrance to the Sturgeon Bay and Lake Michigan ship canal. Owing to generally unsatisfactory experiences with flash-lights, it is not considered advisable to establish more of these until there has been a great improvement in the machinery that operates them. It will be necessary to increase the height of the tower, as the present one is not large enough or high enough to accommodate a light o the order contemplated by the board.

D.

KENOSHA.

Special to the Marine Record.

The following is a list of masters appointed to take command of the Kenosha fleet: Schooners Two Fannies, Alfred Miller master; Jura, Samuel Miller master; Ostrich, C. C. Miller master; D. S. Austin, John Maloney master; Melvina, Thos. Maloney master; Gilbert Knapp, Michael Maloney master; Narragansett, Chris Willnaugh master; J. V. Jones, Olie Hanson master; Wolverine, Robert Symonds master; Morning Star, A. M. Elliott master; Eveline, Steve Jaxon master; German, George Hartnell master; tug Fred Engel, A. Barkenhagen master.

The first signal for navigation to open at this port was made by the schooner Contest which spread her white wings and departed for Racine on the 31st.

John Hartnell and John Gregory have purchased the small scow German from Tom Johnson, of Racine, for $1,300.

Frederick Wygatt and Charles Allen have purchased from Quaille, of Grand Haven, the schooner Eveline; consideration $3,200.

Captain Burt Blouert has had the scow Quickstep hauled out and is giving her a thorough rebuild.

The life saving station was opened on the 2d inst. with Captain Cameron in command. The crew is the same as last season.

On her return from Owen Sound the schooner Melvina will be converted into a three-master. She will have the spars of the schooner Myosotis, which was wrecked last fall near St. Joseph, Mich.

C. A. E.

MUSKEGON.

Special to the Marine Record

The ice in the harbor begins to look very black, and the time is in the near future when the sound of mills, barges and tugs can be heard at the morning's early dawn.

On the 1st inst. the steambarge City of New York, of Chicago, came to this port for a cargo of lumber, which she will receive at C. D. Nelson's mill, at the mouth of this harbor, and will leave on the 3d.

The life saving crew went into service on the 2d inst. The following are the members: Captain H. J. Wood, Geo. Morancy, Jacob Joostin, Allen Kent, John Powers, Alex Park, W. B. Coates, William Park.

Montgomery, Shampane & Co.'s mill has been running for over a week on logs that were brought here on cars.

The old Muskegon tug association has dissolved, and each tug will have to look out for itself this year. All vessels coming to this port will probably be picked up out on Lake Michigan.

The little schooner Ada, that went ashore here early last fall, was hauled out on the beach and is now in good shape for repairs.

Schooner Quickstep has received some repairs this winter.

All the tugs are fitting out and getting ready for the spring work. T.

SANDUSKY.

Special to the Marine Record.

Considerable dredging is being done at the B. and O. docks. Mr. Hayden is superintending the work.

The steamer B. F. Ferris has had her boiler thoroughly overhauled, and is now in first-class condition. She has also received a new smokestack.

J. B. Hart, Esq., is overhauling the steamer Schnoor's machinery.

All vessels lying here are being fitted out for the season.

The steamer Jay Cooke is expected to arrive here about April 15. The sum of $35,000 has been expended in giving her a thorough rebuild, and she is now comparatively a new boat. No name has yet been decided upon. C. G. S.

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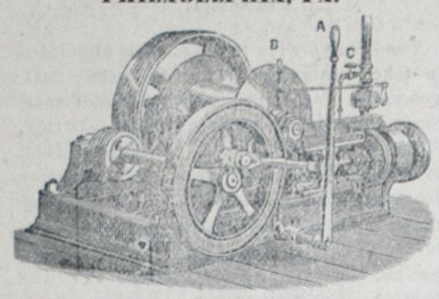

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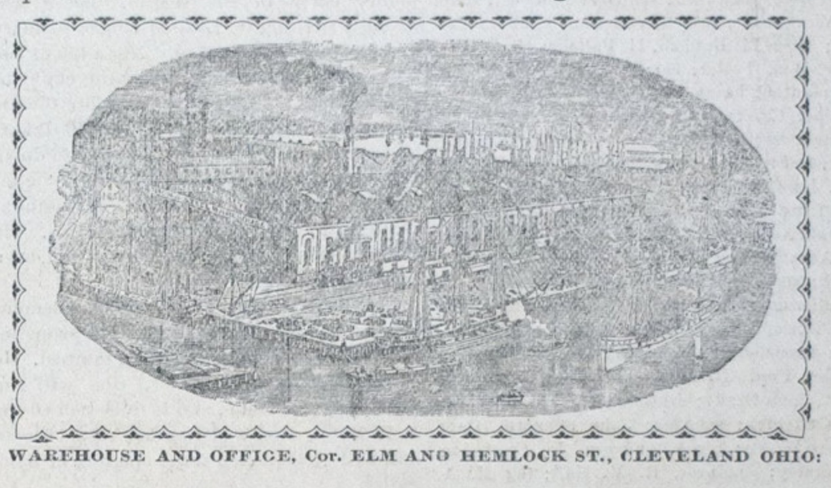

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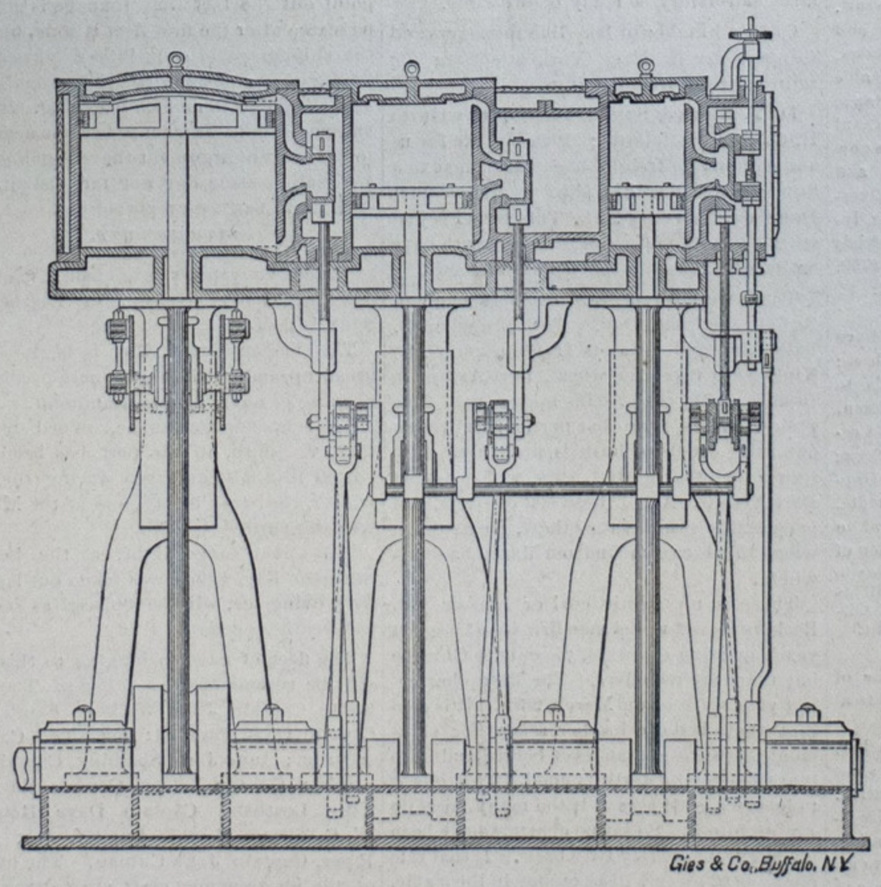

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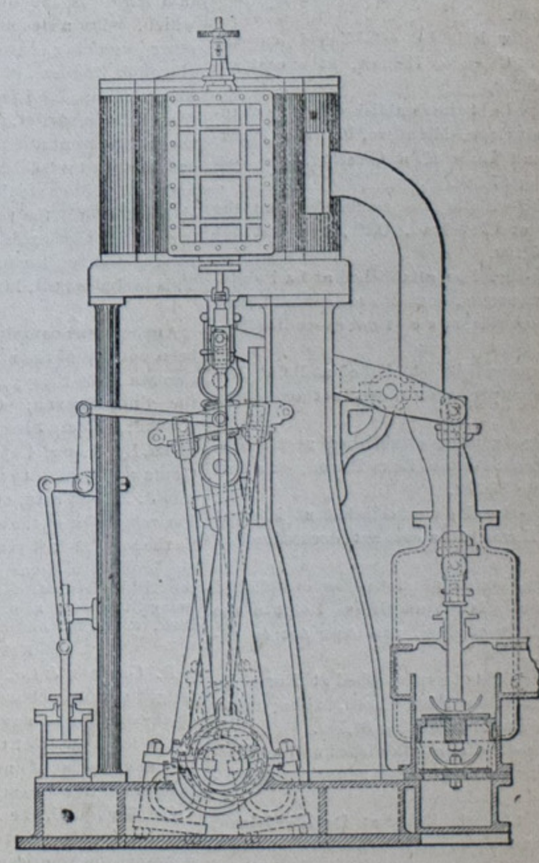

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Eastward.	Arrive	Depart.
No 4, Fast Limited Express	*2 55 A M	*2 55 A M
No 8, N. Y. B & A Express	*8 30 A M	*8 55 A M
No 26, Elyria Accommodation	†7 45 A M	.....
No 24, Buffalo Ac'm via Sandusky	†10 05 A M	†10 15 A M
No 24, Toledo Accom via Norwark	†10 05 A M	†10 15 A M
No. 10, New York & Boston, "Flyer"	.....	*11 35 A M
No 12, N Y & B Fast Express	*2 20 P M	2* 45 P M
No 2, Night Ex via Norwalk	9 40 P M	†10 00 P M
No 22, Night Ex via Sandusky	†9 40 P M	.....
No 26, Conneaut Accommodation	†4 25 P M	.....

Westward.	Arrive.	Depart.
No 1, Fast Limited Express	*12 15 A M	*12 15 A M
No. 23, Cleveland Express	*2 15 A M	
No 3, Chicago Express via "	§5 30 A M	5 45 A M
No 25, Mich Accom Norwalk	.....	†5 45 A M
No 21, Toledo Ex via Norwalk	†12 50 P M	†3 20 P M
No 5, St Louis Ex via Sandusky	*10 50 A M	*10 55 A M
No 9, Chi Pac Ex via Norwalk	*6 55 P M	*7 15 P M
No 31, Elyria ac to Elyria only	.....	†4 30 P M
No 27, Conneaut Accommodation	†8 10 A M	.....

Sunday train for Nottingham—Depart 9:20 a. m. and 1:00 p. m.; returning, arrive at 9:20 a. m. and 4:45 p. m.
Reference marks—* Daily, † daily, except Sunday, § daily, except Monday.
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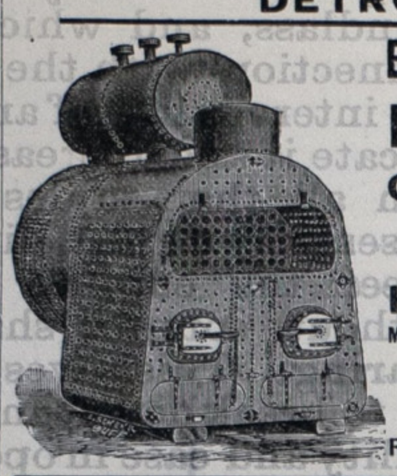

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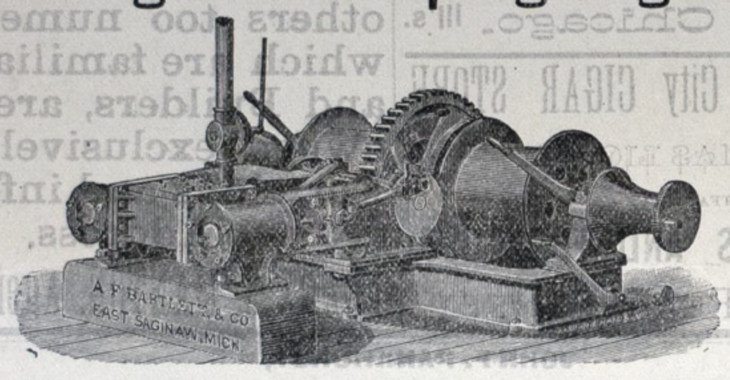

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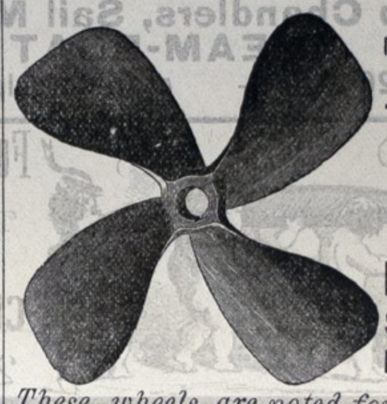

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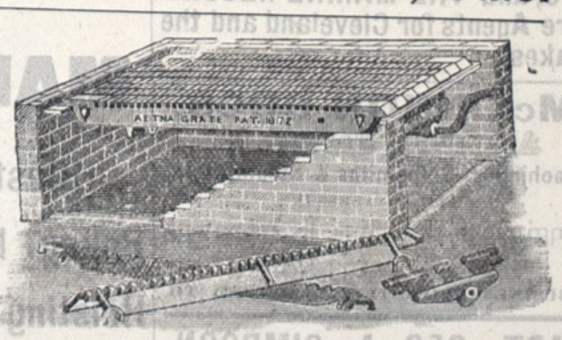

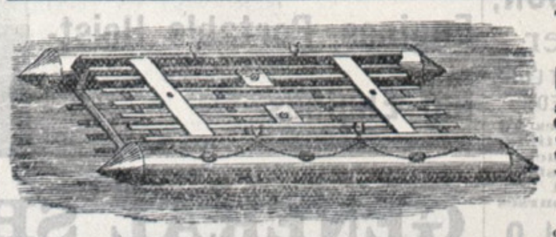

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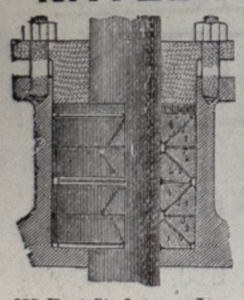

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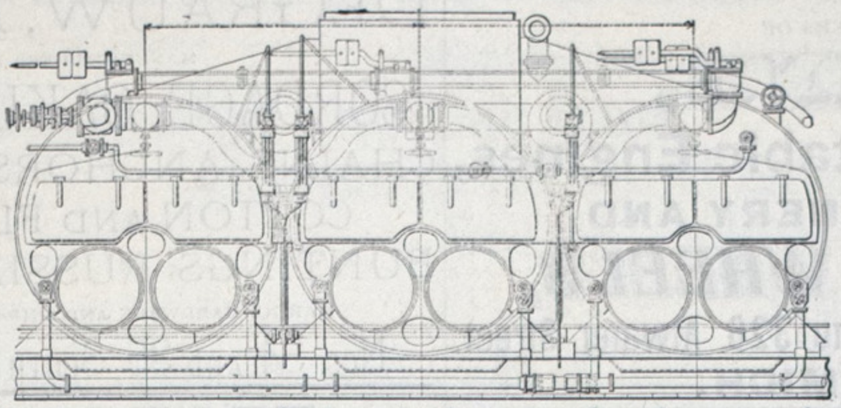

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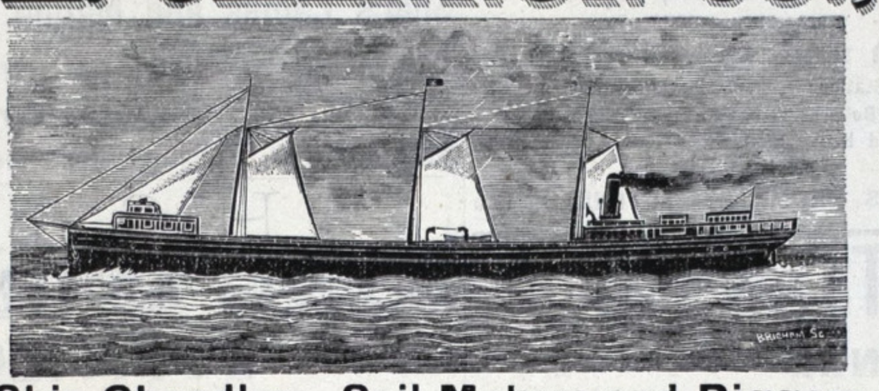

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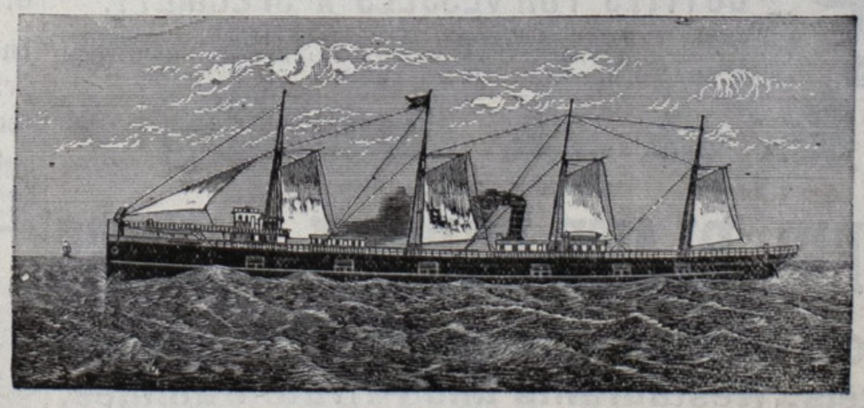

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